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Vaanin rulagam vazhangi varudhalaal
Thaanamizhtham endrunarar paatru ***-Kural 11***

As the existence of the world is maintained by the continuance of rain, it is worthy of being called ambrosia.

- From Kalaignar's commentary on the Kural

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FIRST WRAPPER

A vista of the gushing waters of the **Vaigai dam**.

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Great places of interest to tourists in four Districts of Tamil Nadu

Coimbatore

Anamalai Tiger Reserve

Every forest has a soul. As you delve deep into it, mysterious trails and surprising tales will greet you. That is why you need to go deep into the heart and soul of National Sanctuary, locally known as Anamalai Tiger Reserve, a bewildering strip of splendid forest land that will fascinate you beyond limits. The Anamalai Sanctuary is situated in the Anamalai Hills of the Western Ghats. Anamalai Tiger Reserve is primarily a sanctuary for the protection of tigers. However, the area is home to a wide variety of fauna and flora that attract tourists from far and wide. Some of the animal species here other than the Bengal Tiger are Indian Elephant, Indian Leopard, Nilgiri Tahr, Lion-tailed Macaque, Gaur, Nilgiri Langur, Sambar Deer, Sloth Bear, Malabar Spiny Dormouse and so on. The locale also hosts a

Anamalai Tiger Reserve

The Parambikulam Aliyar Dam

number of bird species like Cormorant, Teal, Duck, Quail, Jungle Fowl, Hornbill, Asian Barbet, Hawk Eagle and Kingfisher. Apart from these, amphibians and reptiles like snakes, lizards, frogs and turtles are also commonly found in this region. Also, over 2000 plant species have been identified here, making the Reserve truly a blooming wonder. All this makes Anamalai one of the must-visit wildlife destinations in South India.

Topslip

"A pollution-free heavenly land", Topslip is located above the 800 feet from the sea level on the Anamalai mountain range and in the Anamalai Tiger Reserve. It stands majestically with Green Spread Mountains and forests all around.

Valparai is about 65 km from Topslip. The two small places within the Anamalai Tiger Reserve (formerly Indira Gandhi National Park and Wildlife Sanctuary) lie in the Coimbatore District of Tamil Nadu, at the southern part of the Nilgiri Biosphere Reserve in the Anamalai Hills. Separated from the Nilgiri Hills by the Palghat Gap on the north, the Park is contiguous to the Parambikulam Wildlife Sanctuary (Kerala) to its west and to the Eravikulam National Park (Kerala) and Chinnar Wild-life sanctuary.

Topslip

Tiruppur

The city is known as the knitwear capital of India due to its cotton knitwear export units. Special industrial parks have been established to support the textile industry. Tiruppur is located 50 km from Coimbatore.

The Parambikulam Aliyar Dam

The Parambikulam Aliyar Dam is notable among the famous dams in Tamil Nadu. It is situated in the Anamalai range. Electricity is generated here through a series of dams that interlink more than six rivers.

Singanallur Boat ride

V.O.C.Park

Forest College Museum

It is one of the Forestry colleges in our country. The college is located 3.5 km away from Coimbatore railway station. The exhibits include arms used in olden days, wood crafts, huge collections of insects, cultural artifacts and many more. The main attractions are the preserved and stuffed animals, birds and reptiles.

Coimbatore Government Museum

The Coimbatore Government Museum was established in 1990 and is located on VOC Park Road, Coimbatore. It serves as a window into the history and culture of the region, making it a valuable destination for those interested in exploring the heritage of Coimbatore and Tamil Nadu as a whole.

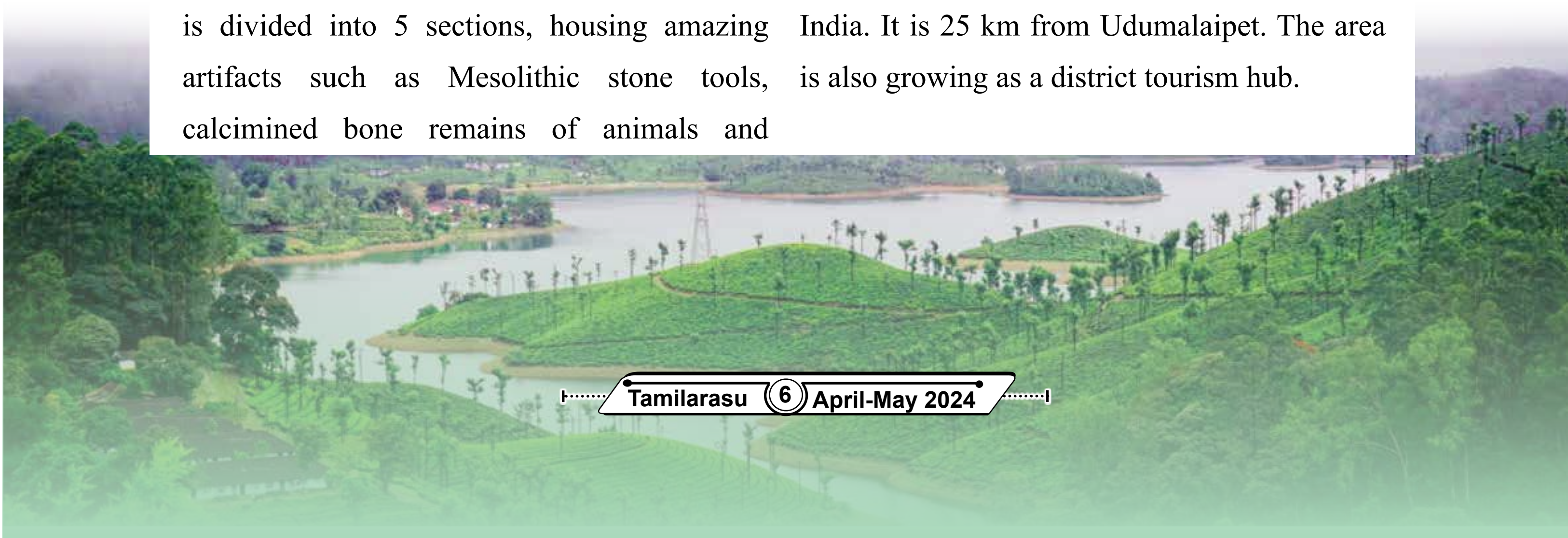
The Coimbatore Government Museum is divided into 5 sections, housing amazing artifacts such as Mesolithic stone tools, calcimined bone remains of animals and humans, wood carvings from the 18th century, bronze icons, stone sculptures, inscribed stone slabs, and tribal artifacts. In addition to cultural artifacts, the museum also houses a section dedicated to natural history, featuring old rocks, minerals, wood fossils, and tribal medicinal plants. The museum also boasts a diverse collection of exhibits related to art, archaeology, anthropology, numismatics (study of coins), botany, zoology, and geology.

Singanallur Boat ride

Singanallur Lake is a popular tourism site with the most tranquil ambiance and exquisite nature. There are facilities for boating in the lake here.

Crocodile Farm

The Amaravathi Sagar Crocodile Farm is the largest Crocodile nursery (captivity) in India. It is 25 km from Udumalaipet. The area is also growing as a district tourism hub.



Vaidehi falls

This waterfall is 30 km from Coimbatore and it is located in Narasipuram village. It is a perennial waterfall that is a great tourist attraction.

Valparai Hill Station

Valparai Hill station is located on the Anamalai mountain range of the Western Ghats and is also one of the best tourist places in Tamil Nadu. At a distance of 104 km from Coimbatore, Valparai Hill station is a pollution-free heavenly land surrounded by tea estates. It stands majestically with Green Spread Mountains and picturesque forests all around. Elephants, leopards, lion-tailed macaques, barking deer, wild boar, the Nilgiri and the common langur, the Great Hornbill, the Malabar Pied Hornbill and the Grey Malabar Hornbill are regularly seen here. Currently tea, coffee and pepper are widely cultivated.

Athirapally Waterfalls

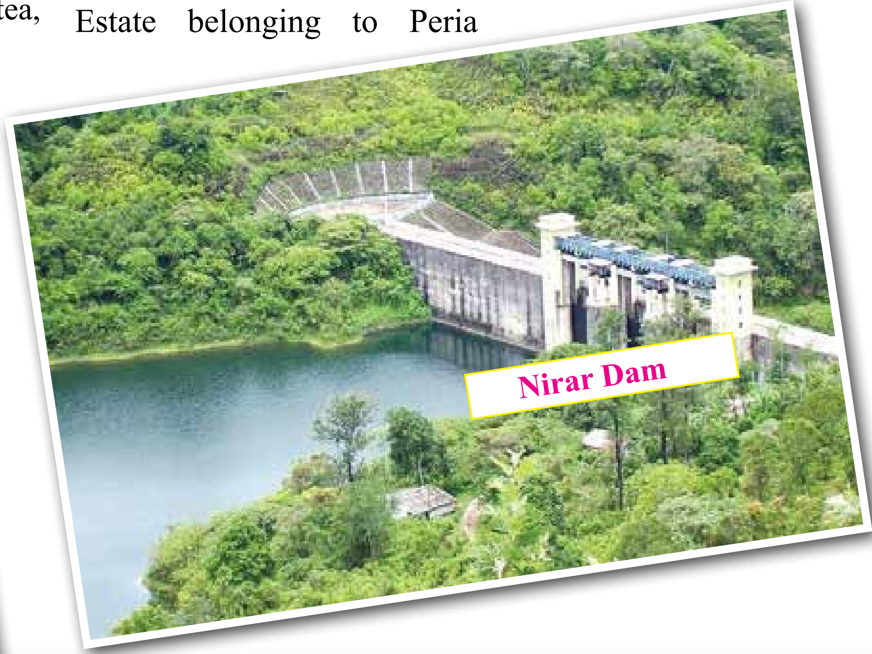
Athirappally Falls, is situated in Athirappally Panchayat, Chalakudi Taluk,

Koozhangal river

Thrissur District of Kerala, on the Chalakudy River, which originates from the upper reaches of the Western Ghats at the entrance to the Sholayar ranges. It is the largest waterfall which stands tall at 80 feet, which is close to dense green forests. It is located 80 km away on the road to Kerala.

Congreve Falls

This falls is situated within Nadumalai Estate belonging to Peria



Nirar Dam

Athirapally Waterfalls

Karamalai Tea & Produce Co. Ltd., which is very near to Valparai town.

Koozhangal river

Koozhangal or Koolangal River, running very close to Valparai on Valparai-Sirukundra main road, is more a stream than a river. The place is famous for its slow-flowing waters which shows its pebble stone bottom amid verdant, grassy surroundings.

Nirar Dam

Nirar Dam is located 15 km from Valparai. The dam has been constructed as part of the hydro-electric power project and also plays an important role in irrigation and water supply. The Nirar Dam and its reservoir are located amidst lush green forests and hills.

Chinnakallar Falls

Chinnakallar is a geographically important place. It is the second highest rainfall area in India. It is always found to be wet and misty. There is a greenish dense forest with tall majestic trees all along the road to Chinnakallar. The Chinnakallar falls sounds like a roaring lion.

Sholayar Dam

Sholayar Dam is 24 km from Valparai. This is the second highest masonry Dam in Asia. As it is located on the border of Kerala, many people from Tamil Nadu and Kerala visit it.

Nallamudi Poonjolai

Nallamudi Poonjolai is located in Anamudi Estate. The reason why it is named Anamudi Estate is obvious. Situated amidst the tea fields, Nallamudi Viewpoint offers stunning views of the Anamudi Peak, the tallest peak in South India, its vast tea gardens, lush green valleys, and magnificent waterfalls flowing between the steep cliffs of the mountain ranges. The spectacular scenery and the tranquil environment of the viewpoint attract many tourists and nature lovers.

Birla Waterfalls

Birla Falls is a stunning waterfall located 2 km from Valparai. The fall is situated within Sholayar Estate of Jay Shree Tea Industries Ltd.

Grass Hills

Grass Hills is a protected area located in Valparai. The landscape is a combination of peaks and high plateaus composed of

shola-grassland eco-system that is surrounded by high green grasses on mountain slopes is a mind-blowing place to watch and explore.

Tiger Valley

Tiger valley is located in the 27th hairpin bend between Waterfall estate and Attakatti. From here one can have an excellent view of the upper Aliyar dam.

Mel Nirar dam

It is located at Chinnakallar, 18 kms from Valparai. It is a natural landmark that captivates nature lovers. This beautiful spot offers a serene escape into nature's embrace.

Oldest Teak Tree

This tree is 500 yrs old with 90 feet height and 23.5 feet girth situated in Sheikalmudi forest area of Valparai.

Lawson falls

Lawson Falls is a waterfall located in Chinnakallar near the protected forest boundary at a distance of 18 km from Valparai.

Loam's Viewpoint

Loam's Viewpoint is situated at the 9th hairpin bend of the winding Pollachi-Aliyar-Valparai hill road. This viewpoint has been named after Mathew Loam, who marked the roadway back in 1886.

Salem

The city is also famous for maize, bauxite mineral, truck construction, handloom weaving and iron industry, among other things. According to an inscription here, the name Salem is derived from the word Sela or Shalya, which means hilly country. It is the birth place of the Tamil Poet Avvaiyar. In 1951, when the state was partitioned on linguistic lines, villages were exchanged between the then Mysore State and Madras State. In 1961, Sangakiri Taluk was formed from Tiruchengode Taluk.

Uthamasolapuram

Uthamasolapuram is a small town situated on the west bank of the Thirumanimuthar. It was also known as Karapuram and Kaveripoompattinam. At present, it is named as Periyur. During the Chola period, the city was a major trading centre.

Oothumalai

The beauty of Salem city can be seen from Oothumalai, which is situated 6 km from Salem.

Kiliyur Falls

This waterfall falls from a height of 300 feet in the middle of a natural environment.

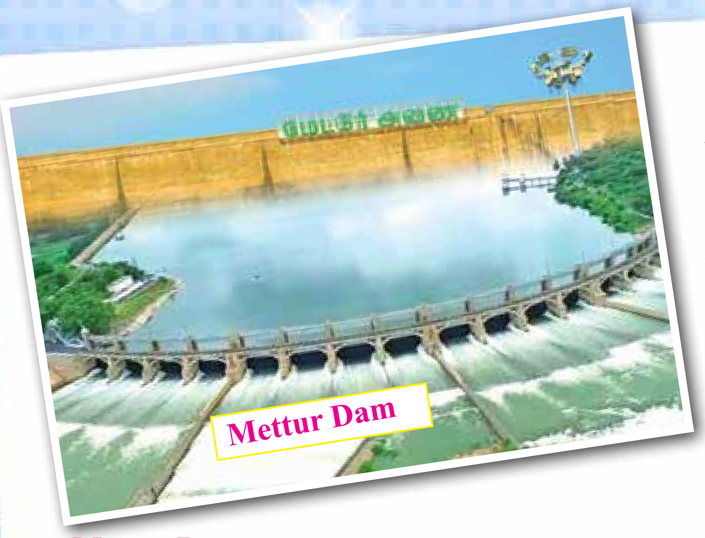
Poiman Karadu

A tourist hilltop in the shape of a deer with two horns, Poiman Karadu lies 9 km from the Salem City on the Salem-Namakkal National highway.

Uthamasolapuram

Kiliyur Falls

Poiman Karadu



Mettur Dam

Mettur dam is one of the largest dams in India. Its construction was completed in 1934. The total length of the dam is 1,700 metres. The Mettur Hydro Electrical Power Project is quite large. The dam, the park, the major

hydroelectric power stations, and hills on all sides make Mettur a tourist attraction.

Yercaud

Yercaud is a small hill station. It is one of the most beautiful and cool regions of North Tamil Nadu. It is a calm place with less noise than hill stations like Ooty and Kodaikanal. The coffee plantations, vines and trees are eye-catching. It is an ideal place for boating and driving. It has been a destination for beauty seekers since ancient times.

From the bottom uphill you can see 20 hairpin bends; there is also a facility to stop and rest in between. Pepper and cloves are grown in this area. There are separate places for men and women to enjoy the beautiful mountain view. There is also a place called 'Pyramid Point'.

Arthur Seat

Arthur's Seat is located 1 km from the centre of the town and can be reached by taking the steep road going north. From this point one can get a bird's eye view of the Big Lake and Yercaud Town.

Anna Park

Anna Park is located near the lake. The park also has a children's play area with slides.

Bear’s Cave:

Bear's Cave, a fascinating site located in a private coffee estate near the Norton

Bungalow on the way to the Servarayan temple. Named for the bears which once were believed to inhabit the area, this cave is open to visitors despite being on private property.

Boatyard

It is a place full of coolness and a climate that attracts tourists throughout the year. People who go on a boat trip in Yercaud lake will feel exhilarated. Another important part here is lady's seat. A panoramic view of the winding mountain roads can be seen from here.

Boatyard

The then Salem District Collector M.D. Cockburn introduced coffee from Arabia and fruits like apples from South Africa for the first time (1820 - 1829). Trees like silver oak were also cultivated here.

Big Lake

Flanked by lofty hills and natural shoals, the Big Lake is a wonderful site and looks stunning with a beautiful garden along its banks. It is the largest lake in Yercaud.

Big Lake

Botanical Garden

The Botanical Garden has various exotic species of flowers and plants and is a haven for botany enthusiasts. The garden houses the Orchidarium and the green house. Yercaud is also famous for the beautiful Kurinji flower that blooms once every twelve years and the Botanical Garden houses plenty of these flowers.

Lady's Seat

Lady's Seat is one of the prime attractions of Yercaud. Lady's Seat is a viewpoint that overlooks the winding ghat road and offers a spectacular view. Besides, the place also houses a viewing tower which is equipped with a telescope to enjoy the beautiful view.

Lady's Seat

Namakkal

Namakkal District is a newly formed district bifurcated from Salem District and is functioning as a separate district with Namakkal as its capital. It has two Divisions. They are Namakkal and Thiruchengode. It consists of 8 Taluks namely Namakkal, Rasipuram, Tiruchengode , Paramathi Velur, Kolli Hills, Sendamangalam, Komarapalayam and Mohanur. The district is bounded by Salem on the north, Karur on the south, Tiruchi and Salem on the east and Erode on the West. The name Namakkal derives from Namagiri, which is the Name of the single rock formation at the centre of the town.

Namakkal is also called Poultry Town as it contains quite a number of poultry Farms and also now called Egg City as is a major producer of eggs. Namakkal finds a place of importance in the map of India because of its lorry body-building industry, a unique feature of the town.

Agaya Gangai waterfall

Agaya Gangai waterfall is located in Kolli Hills of the Eastern Ghats. The water of the falls is considered to contain medicinal properties due to the varieties of medicinal herbs grown across the forest which makes it a natural spa. People here believe that taking bath in the water cures many diseases.

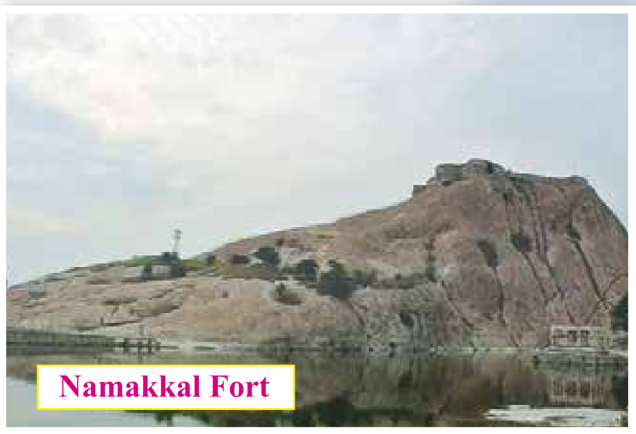
Aiyaru River

Beautiful river, its constituent streams are Aroychi Aaru, Kanappadi Moolai Aaru, Maasimalai Aruvi, Nakkattu Aaru and Thazhigai Aaru. It originates in the Siddhan Kuttu Peak. Its height is 4,500 ft. It is also known as Vellaipaazhi Aaru.

Namakkal Fort

On top of Namagiri hill stands the Namakkal Durgam (Fort). It is one of the naturally strong forts steeped in the bloody history of the district. This fort was captured by the British in 1769 AD. It was retaken by Hyder Ali a few months afterwards and was lost again to the British in 1792 AD.

Kolli Hills



Namakkal Fort

Poultry Farm

Poultry business

In Tamil Nadu, Namakkal district is a pioneer in egg trade. This region leads in poultry farming. Not only men but also women show a great interest in this industry. Most of the eggs produced here are exported to Kerala.

Theni

Theni District is situated in the natural hilly surroundings and covered with forests and trees, at the foot of Western Ghats. Theni District has been formed after bifurcation from erstwhile Madurai District. The main occupation of the people here is agriculture. Theni district is famous for the wholesale trade of cardamom, cotton and chillies. Theni district is hailed as the Manchester of South India, due to the flourishing cotton industries located prominently in Theni. It is also known for its big weekly market on every Sunday. It is the second largest weekly market in Tamil Nadu and the fourth largest weekly market in South India.

Varusanadu

Varusanadu is located in the bank of Vaigai river near Andipatti and includes small villages along the hilly areas. In Andipatti Taluk, handloom and weaving are popular industries.

Megamalai

Megamalai is located on the slopes of the Western Ghats, amidst the lush green tea plantations and cardamom estates. It is popularly called 'High Wavy Mountains'. It is a cool and misty mountain range and lies at a distance of 130 km from Madurai. A perfect place for nature lovers, its altitude is 1,500 m above sea level. The vegetation of the Megamalai hills includes scrub forests

Megamalai

at the foothills, stretches of tea and coffee estates, spice plantations of pepper, cardamom, cinnamon and dense evergreen forest cover. The Tamil Nadu Forest Department is planning to establish the Megamalai Wildlife Sanctuary in an area of 600 sq km of the forest in the division. The Sanctuary will serve as an excellent buffer to the Periyar Tiger Reserve and will also help in strengthening the conservation efforts in the South-Western Ghats. Being very close to the forest, a number of wild animals can be seen roaming here. Megamalai is also host to a wide variety of birds, mammals, reptiles and butterflies.

Kumbakkarai falls

The Kumbakkarai falls is a scenic, peaceful and pleasant waterfall. It is a tourist destination. It is about 9 km away from the town of Periyakulam. The water of this waterfall originates in the Kodaikanal Hills and flows down the rocks in two natural stages. The water is available for the whole year. You can walk to Kodaikanal via the mountain pass here. There is a city bus facility from Periyakulam to Kumbakkarai.

Suruli falls

Suruli falls is located 56 km from Theni and 10 km from Cumbum in the Theni District in Tamil Nadu. It is a two stage cascading water falls. The Suruli River supplying the falls originates from the Megamalai mountain range.

The beauty of Suruli falls is such that it finds mention in the epic Silappadhikaram. The place has an untamed appeal which offers an exhilarating experience for the tourists.

Suruli falls, nestling in the Western Ghats range near Theni district in Tamil Nadu, India, is a natural marvel that is truly beyond comparison. This mesmerizing waterfall, formed by the Suruli River, springs forth from the Megamalai mountain range and tumbles down from a height of approximately 150 feet, creating a breathtaking vista that is sure to leave you spellbound. The waterfall is shrouded in dense forests, and the mystical spray from the falls imbues the atmosphere with a sense of otherworldly wonders.

Sothuparai Dam

Periyakulam

Embraced by verdant forests, Suruli falls provides a picturesque setting for camping, trekking, and rock climbing. The surrounding hills boast several nature trails that afford visitors a glimpse into the richness and diversity of the region's flora and fauna. Visitors can explore the trails on foot and discover the myriad of plant and animal species that thrive in this region of natural abundance.

Suruli falls is a natural wonder that provides visitors with a captivating glimpse into the cultural and mythological significance of the region, as well as its rich biodiversity and unique culinary traditions. The waterfall's breathtaking setting, ensconced within dense forests, makes it an idyllic destination for camping, trekking, and rock climbing. The region's fascinating legend and cultural significance, coupled with its awe-inspiring natural beauty, make Suruli falls an unmissable destination for anyone seeking a serene and enchanting escape.

Chinnamanur

Chinnamanur

Chinnamanur, stands back to a very historic period when the king of Madurai, Rajasimha came to this land. The town is also mentioned in the Tamil grammatical work, Tholkappiyam. This town was initially called Harikesarinallur. The town is one of the major trade centres in the district. Chinnamanur in recent times is known for marketing bananas. Processed bananas from more than twenty units in Chinnamanur are exported to various countries. Chinnamanur also has the highest number of jewel shops in the whole of Theni district. Copper inscriptions taken from Chinnamanur in the British period, are available in London museum.

Sothuparai Dam

The Sothuparai Dam is a dam across the Varaha River in the Indian state of Tamil Nadu. It is located 12 km from the town of Periyakulam in Theni district. Sothuparai dam is one among the highest dams in Tamil Nadu.

Bodinayakkanur

Located amidst the picturesque Western Ghats, surrounded by vast tracts of lush greenery, steep rock-cut mountains and gushing streams, Bodinayakkanur is a beautiful getaway from the bustling city. In early days, it was called by the name Thenkasiyampathi. Bodinayakkanur, shortened to Bodi, is often referred to as the ‘Cardamom City’ because of

Bodi Mettu

its large agricultural produce and spice trade. Other items produced here include coffee, mango and sugarcane.

Bodi Mettu

Bodi Mettu is a hill station located at 4,500 feet above sea level on the Kerala - Tamil Nadu border. Bodi Mettu Viewpoint offers a unique blend of learning, entertainment, and inspiration. They cater to various interests and can be a rewarding experience for people of all ages.

Vaigai Dam

Vaigai Dam Built across the majestic River Vaigai near Andipatti, the dam with a height of 111 feet can store 71 feet of water. It is 7 km from Andipatti, 25 kms from Theni. Its primary purpose was to deliver water for irrigation in the Madurai and Dindigul districts, as well as drinking water for Madurai and Andipatti.

Vaigai Dam

There is a small beautiful garden on both sides of the Vaigai Dam called Little Brindavan that is connected by a small bridge. With a children's park, mini train and pedal boating, this place is very popular with young children.

Vellimalai

Vellimalai (Silver Mountain, 1,650 m) area is the heart of Megamalai. Silver-lined clouds seem to rest gently on green hilltops and nestling somewhere in this region is the place where the river Vaigai originates. This lovely place will give an opportunity to see wild animals and aesthetically and scientifically managed tea gardens.

■

Understanding health and learning to be healthy

The World Health Organization (WHO) has defined health as: "A state of physical and mental well-being and not merely the absence of disease and infirmity."

Good health, therefore, is both the well-being of the body and the mind, and freedom from disease and infirmity. Ayurveda describes a healthy state of an individual thus:

"Even warmth all over the body, lightness of feeling, keen hunger, sound sleep, clarity of thought, ability of the body to work, agility, freedom from laziness, alertness of mind, cheerful disposition and timely elimination of body waste are the prominent signs of good health."

Good health implies good health of the body, mind and soul. In such a state, the body is without any disease and infirmity, the mind is clear, peaceful and without distractions, and the soul is unaffected by external impurities and rests in its original state of consciousness. In short, good health is a harmonious blend of the body, mind and soul.

A state of good health is very essential for achieving success in one's worldly life as well as spiritual life. There is a saying, "Health is

Wealth." It is also said, "A healthy mind makes for a healthy body"

Food

Food, exercise, rest and relaxation and good thoughts, all make a healthy body and mind. Food sustains the body. Good food ensures good health. It is, therefore, necessary to know what good food is.

Food should be nourishing. It should be taken in the right proportions and at the right time in a suitable environment. Food should be well-cooked and easily digestible and should suit your constitution and temperament. You can take the advice of a good dietician for this purpose. Simple vegetarian food that is suited to the season and consists of fresh vegetables and fruits is ideal. Home-made food should always be preferred for its hygiene and nutrition.

Exercise, Rest and Relaxation

There is normally no need for a great deal of exercise for those who do active physical work, eat right proportions of healthy food and follow hygienic principles of living. Exercise becomes necessary because of eating unhealthy food, faulty eating habits and sedentary lifestyles. Ordinarily, brisk walking combined with proper breathing exercises in the fresh and open air are sufficient. Farmers working in the fields, labourers and others engaged in strenuous physical work do not need any additional exercise. Their daily routine itself provides enough exercise. However, as said earlier, daily walks and breathing exercises are beneficial for all.

While regular exercise is necessary for the body and mind, sleep, rest and relaxation are also equally important. Sleep is one of the best natural boons. It is nature's device for refreshing and reinvigorating the body and mind after a day's tiring work. The rhythm of work and rest are to be maintained for

the maintenance of good health, hence the need for both work and activity, and sleep and rest. Sleep is the natural outcome of a tired body. But a mind full of tension will not let sleep overtake you. It is said, "God made day for work and night for sleep." It is desirable to follow proper timings for sleep and relaxation. For a normal person, eight hours of sleep is sufficient.

Good Thoughts

Besides good food and exercise, good thoughts and a pure, healthy mind play a very important role in maintaining good health. Anger, jealousy, hatred, resentment and guilt, which are negative emotions, are dangerous thought patterns which lead to several diseases. Good thoughts and pure emotions, on the other hand, help in

maintaining good health. Avoid negative thinking and inculcate the habit of always thinking positive, whatever be the situation. Good health, both of body and mind, help you move forward successfully.

Good education

Good education acts as a catalytic agent in the unfolding and development of the human personality.

The word 'education' is derived from two Latin words. One is 'educere' and the other is 'educare'. The first means 'to train', and the second 'to nourish'. Thus, education refers to training and nourishing with proper knowledge. Education promotes the harmonious development of the body, mind, intellect and spirit. It contributes to the holistic development of the whole man. Education is the means to bringing out the best in an individual. It acts as the manure that transforms the seed into a sapling and then into a flowering and fruit-bearing tree. Education, as such, is not an end in itself, but an effective means to an end. The end is to have a fruitful, constructive and productive life.

The education of a child begins at conception and continues during its development in the mother's womb. The mother is the first teacher of a baby once it is born. Later, other members of the family contribute to a child's early education. The

first five years are very important in the child's education. Before a child enters the portals of an educational institution, the parents of a child can teach it good habits by proper training and through one's own conduct and by being an example.

Education, in the real sense, is a process of self-improvement through experiment and experience. It is also the process to help in forming good habits, cultivating good thoughts and building a good character. In the words of Emerson, a great American thinker and writer, "The real object of education is to produce thinking men and women." What is taught in schools and colleges is not education but the means to education. Education is a never-ending process. The real motto of education should be: "Man is always a learner and, for learning, the sky is the limit." The process of education is life-long, from cradle to grave, from womb to tomb. It helps in the continuous betterment of the human personality. Education is not just facts and information. Real education provides skills, forms attitudes and builds good manners, all of which enable a person to function positively and effectively in life. Education teaches you how you can live your life purposefully. In short, education provides you with an all-round ability to meet life's challenges.

A well-educated person should be a useful member of the family, a well-balanced citizen and a better human being. Without education, an individual leads a life of ignorance which would make him unworthy and despicable.

From the book
'Personality Development'
by J.M. Mehta

When a spinning spider taught a winning lesson

By James Baldwin

There was once a King of Scotland whose name was Robert Bruce. He had to be both brave and wise, for the times in which he lived were wild and rude. The King of England was at war with him, and had led a great army into Scotland to drive him out of the land.

Battle after battle had been fought. Six times had Bruce led his brave little army against his foes; and six times had his men been beaten, and driven into flight. At last his army was scattered, and he was forced to hide in the woods and in lonely places among the mountains.

One rainy day, Bruce lay on the ground under a rude shed, listening to the patter of the drops on the roof above him. He was tired and sick at heart, and ready to give up all hope. It seemed to him that there was no use for him to try to do anything more.

As he lay thinking, he saw a spider over his head, making ready to weave her web. He watched it, as it toiled slowly and with great care. Six times it tried to throw her frail thread from one beam to another, and six times it fell short.

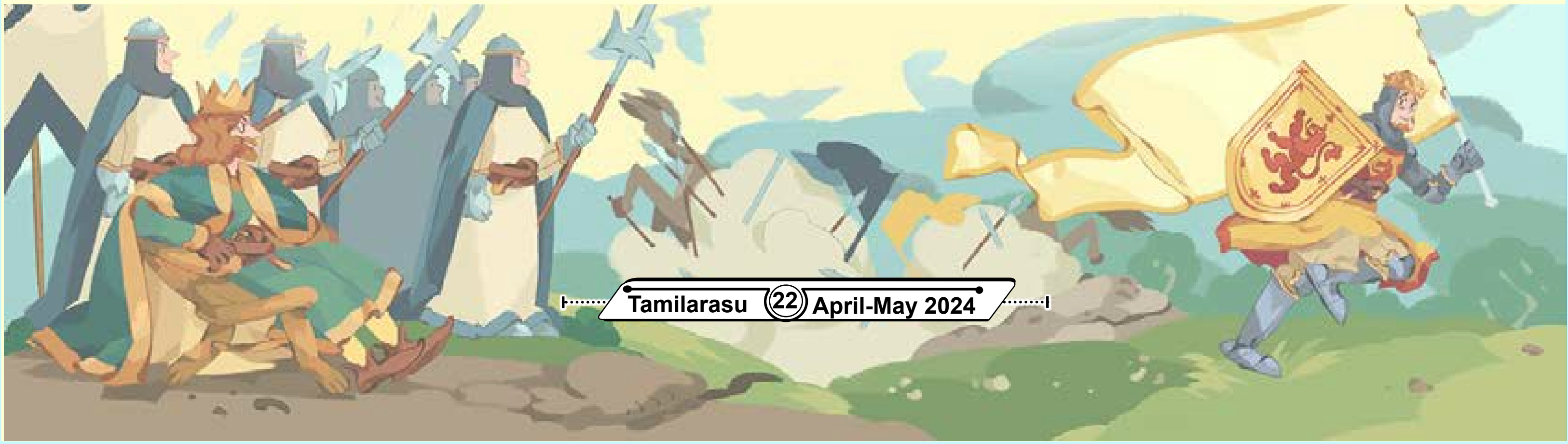
"Poor thing!" said Bruce: "you, too, know what it is to fail."

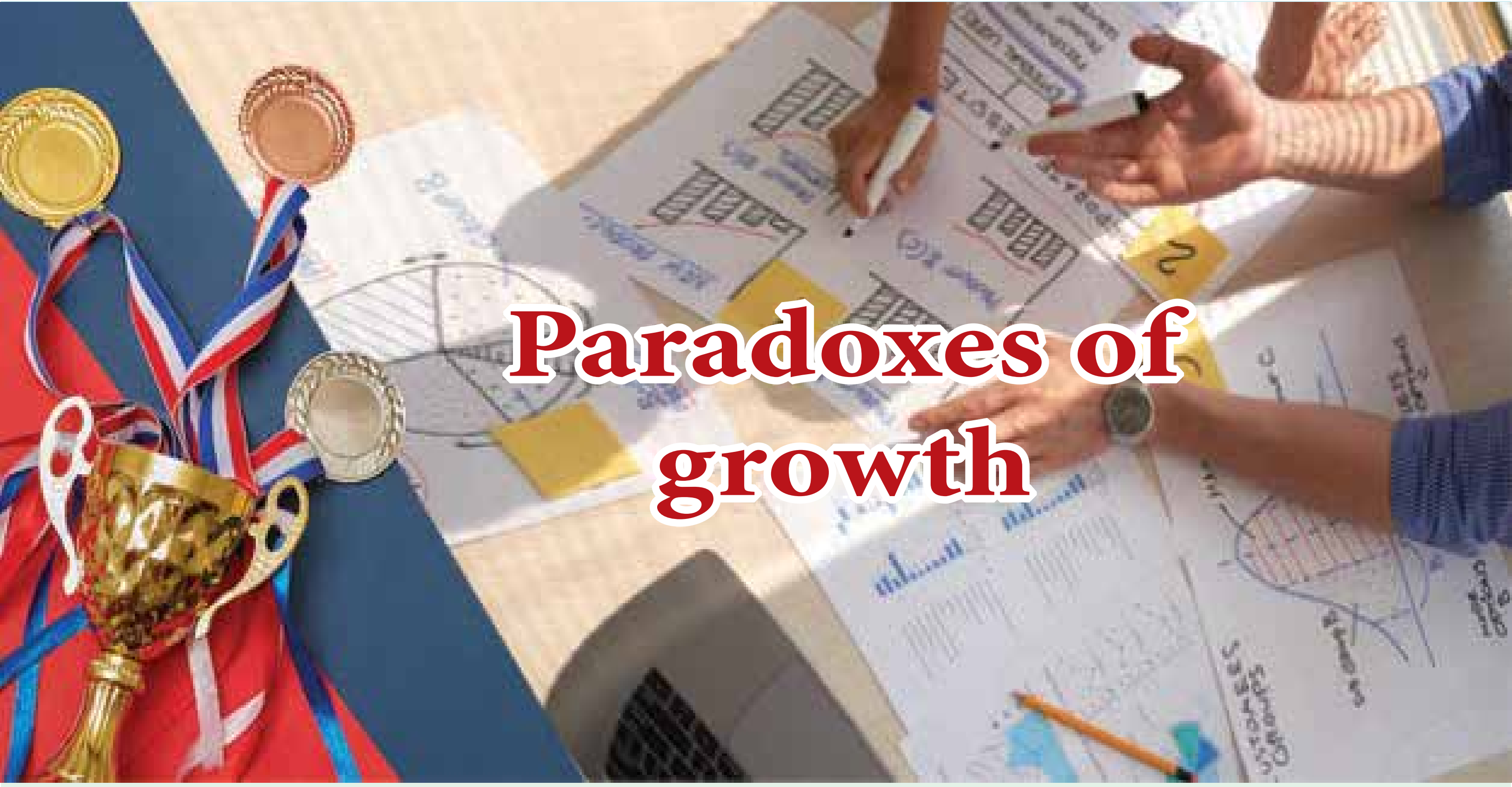
But the spider did not lose hope with the sixth failure. With still more care, it made ready to try for the seventh time. Bruce almost forgot his own troubles as he watched it swing herself out upon the slender line. Would it fail again? No! The thread was carried safely to the beam, and fastened there.

"I, too, will try a seventh time!" cried Bruce.

He arose and called his men together. He told them of his plans, and sent them out with messages of cheer to his disheartened people. Soon, there was an army of brave Scots-men around him. Another battle was fought, and the King of England was glad to go back to his own country.

I have heard it said that after that day, no one by the name of Bruce would ever hurt a spider. The lesson which the little creature had taught the king was never forgotten.





Paradoxes of growth

GROWTH per se is insignificant. Proliferation has to be proportionate. Aptitude should match the age and spiritual advancement, mental calibre. Uni-dimensional expansion is a bane and worse than regression.

We identify bulges with strength by mistake. A swelling should befit the girth of the finger lest something be incongruous.

Growth is not always positive. It may be malignant, lopsided and horizontal. There is a thin difference between extraordinariness and abnormality. No tumour can be benign; at the most it can be non- malignant. Anything that grows extra is deleterious and detrimental at least in the appearance, either in the form of gall, lump or wart. Uniform growth is symmetrical. Unnatural aggrandizement is ugly, awful and horrible.

Relative and dependent

Growth is not an absolute phenomenon to exert or exact authority. It is always relative and dependent. One is taller or shorter with one more around. Affluence or apartheid are comparative in contemplation.

In a few cases, growth and decline are the two sides of the same coin. Increase in supply decreases demand and vice versa.

Every growth is linked with some other improvement. An increase in prosperity results in reduction in poverty. Economy is a cobweb with every fibre intricately woven. Rise in money circulation aggravates inflation with too much currency chasing too few goods. A surge in one may have ripples all over.

Copious flowering in bamboo groves increases fertility and thereby fecundity in rodents. The simultaneous blossoming of this bizarre grass has led to a luxuriant multiplication of rats in a region.

The pilferage of foodgrains paved the way for famine and the inability of authorities to rush relief resulted in rebellion, riots and revolution. Hence, bamboo has the potential to become both canon and flute, depending upon the circumstances.

Uneven growth is an anomaly, causing concern for top echelons from time immemorial. A Tibetan chief pooled the properties of all his subjects and shared them equitably among the families.

He tried thrice, in vain, in his mission to strive for equanimity. Still, he found a few waxing rich and many waning poor after the lapse of time.

Physical unevenness too has repercussions. A fat or plump physique will have hidden disorders yet to be diagnosed. Obesity is 'stretching sideward' that fails to be commensurate with vertical elongation. Man may also vegetate without unison of mind and body.

Unproductive growth

Unproductive growth may lead to depletion of resources. The first truth in breeding is 'cut short the size, it will improve the yield'. Excess foliage causes sterility in plants. Pruning and training are a must to kindle reproductive faculties in shrubs.

Nature is unique. When we try to outdo a plant, it musters enormous strength for resilience. Weed seeds lies dormant for years to germinate in a conducive climate. Lower forms of species have more capacity for regeneration.

Nematodes and lizards recuperate their severed organs expeditiously to regain their shape. Cockroaches remain undaunted in the midst of nuclear holocausts. The evolution of man occurred not by mere growth but through loss of many appendages. Hence, growth is not just gaining the essential but also losing the superficial.

No growth is growth with some stipulations. The Malthusian theory suggested three phases in population growth. The first phase had recorded more birth rate and death rate. In the second phase, birth rate increased with diminishing death rate due to medical intervention.

The third phase is characterised by declining birth and death rates. It stabilises as zero growth rate and all developed nations have attained this ideal stage.

The fourth phase is bound to occur sooner or later, with death rate exceeding the birth rate. We are heading towards it, as a consequence of our own making.

Growth is meaningless unless we have corresponding distribution. Otherwise, it is akin to elephantiasis. Growth orchestrated with distribution is development. A country can boast of its development only when it has cultural, scientific and spiritual progress with hale and hearty citizens. Per capita satisfaction is far more important than per capita income.

Courtesy: Excerpts from the book "Random thoughts"

When you work with love, you never feel tired

Work is the connecting thread in the cobweb of co-existence. It is the umbilical cord to the mother universe. It is attitude expressed explicitly and willingness voiced visibly. The purpose of work is to add to the beauty of the world. It is to bring a smile on the lips of the child, delight on the face of the destitute and contentment in the heart of the deprived. It may wipe the tears of a widow and ward off dangers from a victim.

If work is viewed as work, one gets worked up. On perceiving it as a pursuit, one gets geared up. Performance is the signature we leave for posterity. A few scribble, a few script, a few scribe and a few scratch what others have already signed.

A few leave them on water and a few mark them on mountains. Some do it on the seashore, only to be easily effaced.

Rest does not mean remaining idle. It simply denotes the inclination to change the activity to get replenished. Too much rest makes one rust. The body may get exhausted but not the mind. Enervation from rest is more harmful than exertion due to work.

An assignment is not just an avenue for earning revenue. When money becomes the criterion, the mind craves completion rather than consummation. Quantity becomes important and quality gets sidelined. The number game tends to numb the instincts and fatigue the faculties.

Work is self-discovery. The hidden self in hibernation comes out with flying colours. Toil is the oil for the lamp of life to glow and radiate. One sheds tears for not exuding sweat.

Work is an expression of our gratitude. Unless we work, we will remain indefinitely indebted to everyone. Every object we consume is the contribution of some unknown noble soul. We have to respond by reciprocating with regard. Trees shower flowers on earth only to commemorate their contribution.

Work is meditation

Work is neither worry nor worship. It is meditation where the doer dissolves and doing surfaces. If we water the plants with care, they blossom more. If we irrigate

the crops with interest, they yield more. Luxuriant lawns are mown with love, tended with affection and sprinkled with passion.

We should thank the tree before tasting the berry and be grateful to the vine before grating the gourds. If plucked with disgust, even flowers will smell foul. With a cause, breaking rocks will also be a cakewalk.

Bread baked with compassion will quickly appease the appetite. When the service provider has empathy, quality control becomes redundant.

Labour is not laborious for one who does not brood over the task. Only a Himalayan blunder converts a trivial one into a Herculean task. The work spot becomes a dungeon if duty is considered a drudgery and a paradise if it is treated as a privilege.

A few distill scent and a few dispense dirt and both help in averting odour and abetting order. Honour lies not in the type of vocation but in the degree of dedication.

Equal respect is to be accorded irrespective of the cadre of service. Machines need to be substituted for men who are forced to observe obnoxious practices and slog in subhuman conditions.

Addiction

Alcoholics and workaholics both belong to the same breed. Addiction is bad, whether it is to liquor or to dollars. The art of converging body, mind and soul renders a job a joy and sweat is presumed as the perfume showered for efforts.

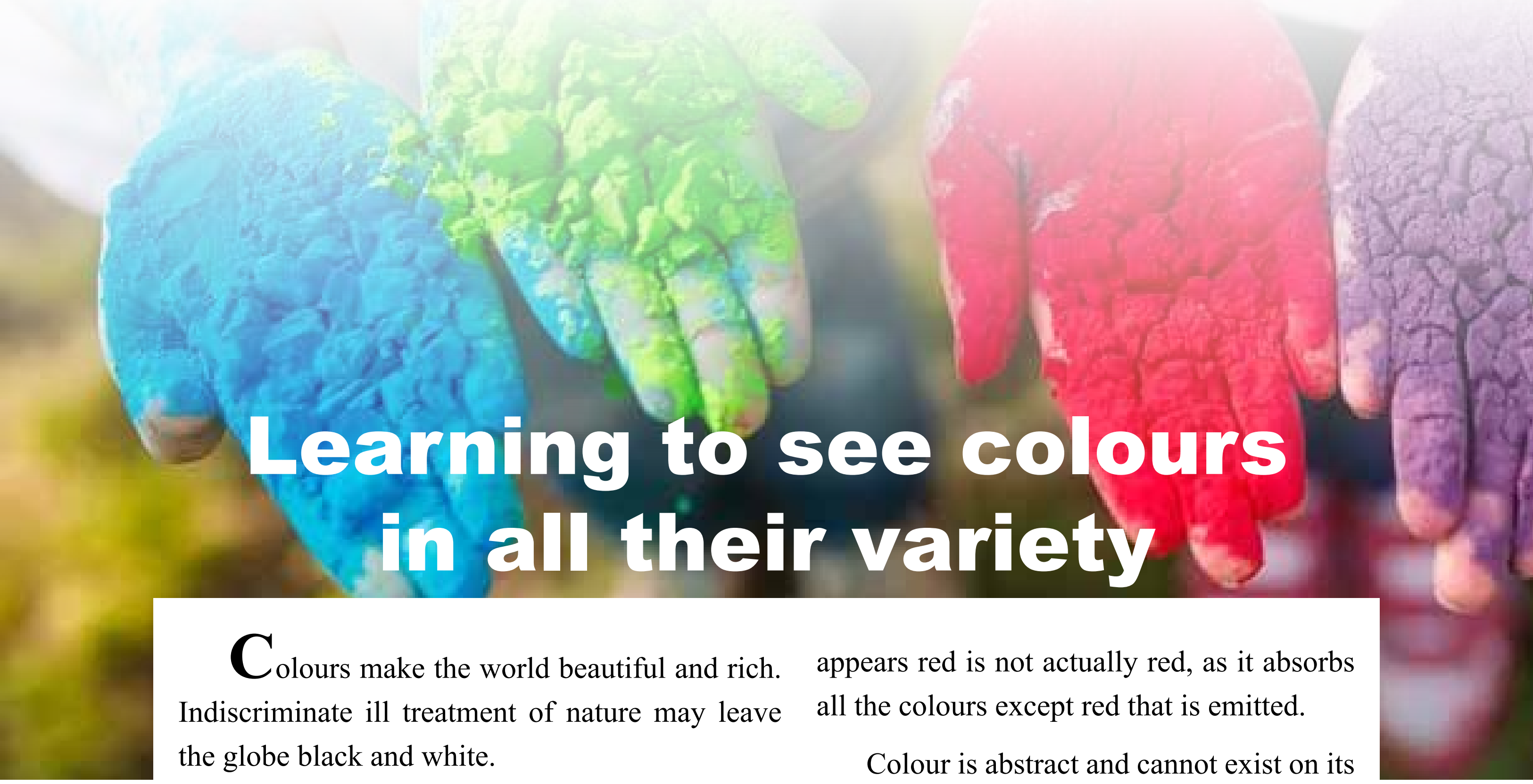
Workaholics are carried away by career planning. They suffer to achieve the results and in the process miss the journey. Hence, at times, they are cent per cent efficient and zero per cent effective. Their dynamism is dubious.

A book printed without space between words can never be read. The organisation comes back to square one and never takes off.

We dedicate first, delegate later and abdicate subsequently. One who retains the tempo from the date of joining to the day of retirement is remembered forever. When we stretch the muscles of the body and the membranes of the brain, our endurance improves and resilience increases.

Occupation is an opportunity to unfold our individuality. The employment we profess should become, if not a labour of love, at least labour with love.

Courtesy: Excerpts from the book "Random thoughts"



Learning to see colours in all their variety

Colours make the world beautiful and rich. Indiscriminate ill treatment of nature may leave the globe black and white.

Our creative attempts are mere imitations, as Aristotle says. It is impossible to mimic the innumerable varieties of inimitable nature. No master craftsman can paint the sparkling snow-clad peaks at dawn and dusk either with words or with a brush. The firmament is a kaleidoscope that changes its endless patterns from moment to moment, offering infinite varieties to gaze upon and wonder about.

Our categorisation of colours is illustrative and not exhaustive. It comprises just the major heads. Our language is inadequate to name the minor divisions and minute shades. We even have invisible colours.

Infrared radiation is of immense use in the medical field. Infra-red help both in diagnosis and treatment. Insects like bumblebees can perceive ultraviolet rays invisible to human eyes. Scientists have developed the UV index to help people protect themselves from harmful ultraviolet waves.

Colours are nothing more than the vibrationary rebounding of frequencies which a particular object has refused to absorb. Hence, something that appears red is not actually red, as it absorbs all the colours except red that is emitted.

Colour is abstract and cannot exist on its own. It requires a medium to get manifested. White and black are not colours; white is the agglomeration of all and black, the absence of any.

Glaring truths

There are glaring colour truths to be pondered upon. Colours can be combined together in structured, systematically ordered arrays with a distinctive character. There are general causal truths with regard to materialisation of colours. Different colours have different specific aesthetic effects including the principles of harmony, balance, contrast etc. They vary in emotional effects.

We give attributes to colours. Red signifies anger, blue sadness, black fear, pink happiness, green jealousy and saffron sacrifice. People respond to different colours in different ways and these responses take place at a subconscious, emotional level. In occidental cultures black denotes death and in oriental cultures, white is associated with mourning.

Colours have a purpose. Flowers bloom with captivating colours to attract bees to facilitate pollination. The colour of victuals activates the appetite. Colours influence us. Coffee served in dark containers is assumed to be strong.

Colours can replace slogans and act as motivating conduits. The red triangle signifying the small family and the green triangle signifying increased agricultural productivity have come to stay as impressionable symbols.

Traffic signals have substituted verbal regulations and have helped save lives and energy. Red is associated with rebellion; green, white and blue revolutions are associated with agriculture, animal husbandry and fisheries respectively. Their contribution to feeding the hungry and weak is quite laudable despite the alleged controversies surrounding them. 'White-collar' refers to jobs involving more brainwork and 'Blue-collar' with cumbersome, physical jobs.

Our language is filled with colourful phrases and idioms. Men with a 'green thumb' have a talent for gardening. 'Blue blood' denotes nobility. In Spain, rulers looked at the arms to verify whether the blood was blue. A luxurious lifestyle left them with fair skins and blue veins.

Murderers should be 'caught red handed' with blood smeared hands. Now, corrupt delinquents are trapped 'pink handed'. Phenolphthalein powder dusted on currency notes turns sodium carbonate solution pink. One who gets 'a pink slip' loses his job and we cannot expect him to be in the pink of health'. A 'blue moon' is not seen even 'once in a blue moon'. Special treatment is 'red carpet treatment' and a special day is 'a red letter day'.

One who changes colours resembles a chameleon. 'Showing one's true colours' is a phrase derived from the chicanery practiced by pirate ships which would hoist a colourful flag to entice passenger ships to come closer.

The brain is referred to as 'gray matter' but matters incomprehensible are called 'gray areas'. Obscenity is associated with blue movies, yellow magazines and red light areas.

We have prejudices about colours. Research indicates that there is a gender difference in responses to colour. Our history is the account of hysterical racial aversion.

Presumption of the suzerainty of fair skin over dark has led to the painful pages of slavery and savagery.

All colours have a role to play. If leaves turn yellow, then the plant must be suffering from a disorder. A balanced food will have the correct combination of all colours. A judicious mix of vegetables in green, orange, red, yellow and white will strike a healthy balance.

An array of colourful food will lead to a colourful life. Similarly, a balanced life is contributes to a balanced mind. Vision should be rich without colour blindness but a 'coloured vision' is awful.

Our failure to appreciate the beauty of each and every creation in the universe has made us grope in a lacklustre world and our colours have been confined to television sets. More love, attention, empathy and understanding towards everything that we encounter can make us come out with flying colours..

Courtesy: Excerpts from the book "Random thoughts"....

Un-learning is the first step to true learning

All of us accept learning as a continuous process, and as not to be forsaken till the end. But at the same time, on introspection, we would discover how resistant we are to learning.

J. Krishnamurti says, "Learning is one thing and acquiring knowledge is another. Acquiring knowledge is bondage and learning is never bondage. Knowledge is always in the past, knowledge implies the past".

It is true that knowledge is not a stepping stone to learning but a blocking hillock to progress. The knowledge gained in the initial stages makes us prejudiced and prevents us from exploring, experimenting and experiencing the truth.

The real learning process never leads to complacency. We feel a vacuum and get inspired to probe further in the path of life. Knowledge is always borrowed and is second-hand.

Un-learning and learning

'Knowing' is an entirely different phenomenon. One has to learn and be prepared for it.

Unlearning is another dimension of learning, Forgetting is the first step towards memory and ignorance is the gateway to knowledge.

As someone remarked, knowledge is nothing but ignorance made visible. Even the

apprehension we have about knowledge is not authentic. Memorizing is not understanding. One can give an eloquent lecture on computers without any know-how.

There are four kinds of knowledge. Appearance knowledge belongs to the ignorant, relative knowledge to the philosophers, and perfect knowledge to the enlightened. Perfect wisdom is realized at the inner transcendental stage. This intelligence blossoms out of realization at the deepest level of consciousness. Knowledge gets transformed into wisdom only at the fourth level.

Patience and perseverance

Learning requires patience and perseverance. How patient is the water? While flowing it encompasses all the hurdles on the way and acts continuously on all hard and rough surfaces, slowly but steadily turning them smooth and polished. One should be humble enough to grasp, absorb and assimilate what one observes all around.

The Tao says that the ocean is the mightiest and largest of all the waters on the earth as it lies low and is ready to receive,

Ambition and avarice create anxiety and anguish. Then learning loses lustre, becomes dull and goes lull. We get catapulted into a zone of fear and tension. We miss the beautiful breeze, the sanguine sky, the verdant vegetation and all the other lovely things around us.

Unless we enjoy education, it may be anything from music to mysticism or mathematics to metaphysics, it will remain at the empirical level without any impact.

Dr. Deming, a famous management expert, emphasized that the real learning process helps to lead us from unconscious incompetence to conscious incompetence, a sign of great progress. Then we move from conscious incompetence to conscious competence and finally to unconscious competence.

-Courtesy: Excerpts from the book "Random thoughts"

Develop Self - Confidence for Success in Life

Life has been described as a struggle. No struggle can be waged and no battle can be fought successfully without self-confidence.

Self-confidence means inner strength which helps us do whatever we must to achieve our goal. It provides enthusiasm, which acts as a catalyst to do our work with greater speed and efficiency. With such an attitude, we will never give up even in the face of obstacles and failures. We will persevere to make efforts till we succeed. Sometimes one may feel disappointed when one does not get the desired result. It is in such situations that our self-confidence comes to our rescue and helps us work with increased vigour and enthusiasm.

Self-confidence is really the key to success. How should you cultivate an attitude of self-confidence to ensure self-improvement?

- Always look at the positive side of the happenings in life and try to remain cheerful.
- Maintain good health; it will bring confidence.
- Set your goals on a daily basis and long-term basis, and work to achieve them step by step. Every small success will increase your confidence.
- Begin each day with a happy and optimistic frame of mind. Write down your plans so that you do not forget.
- Failures are bound to come in life. Analyse the cause of failure, improve your efforts and act with greater enthusiasm. This will bring confidence and success.

From the book

'Personality Development'

by J.M. Mehta

The many dimensions of Mahatma Gandhi's leadership

Vision

The prime component of Mahatma Gandhi's leadership was his elevated vision that humans, the highest manifestation of God's creation, can and would live in harmony and peace, firmly adhering to Truth, Justice, Love and Non-Violence. "Non-violence is the law of our species as violence is the law of the brute. The spirit lies dormant in the brute and he knows no law but that of physical might. The dignity of man requires obedience to a higher law that of the spirit. It is the law of love that rules mankind. Had violence i.e. hate ruled us, we should have become extinct long ago. Mankind has to get out of violence only through non-violence. Hatred can be overcome only by love."

Mahatma Gandhi's vision, though considered utopian by some and arcadian by others, was actually an elevated, deeply spiritual yet practical one. Like the tall redwood tree, which views the farthermost horizon, yet is fully aware of every environmental nuance around its sumptuous girth and at its deepest root, Mahatma Gandhi perceived the macro and micro effects of human behaviour in diverse fields. His vision can justifiably therefore be described as "prophetic".

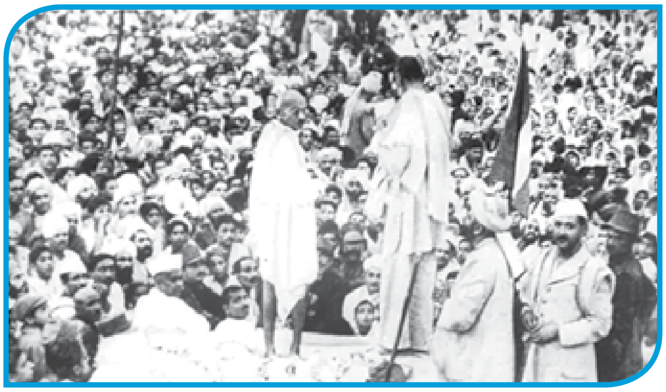
Courage and Character

Mahatma Gandhi was not born courageous. In his childhood and youth he was

extremely timid. He was greatly afraid of snakes, ghosts, thieves and darkness. It was his devoted maid Rambha who enabled him to overcome these fears by getting him to invoke Lord Ram's name as an effective antidote to all his fears. At school he was an active participant in various activities, including sports, and at times even functioned as an umpire. But this self confidence was only among those he was very familiar with.

Compassion, Dedication and Determination:

Mahatma Gandhi's compassion is clearly seen in his constant focus on the oppressed and impoverished. He identified himself and empathized with them, dressed like them and after 1917 even lived like them in a mud hut, though brought up in comparative luxury in his youth and held a British legal degree. "I shall work for an India in which the poorest shall feel that it is their country, in whose making they have an effective voice" he affirmed.



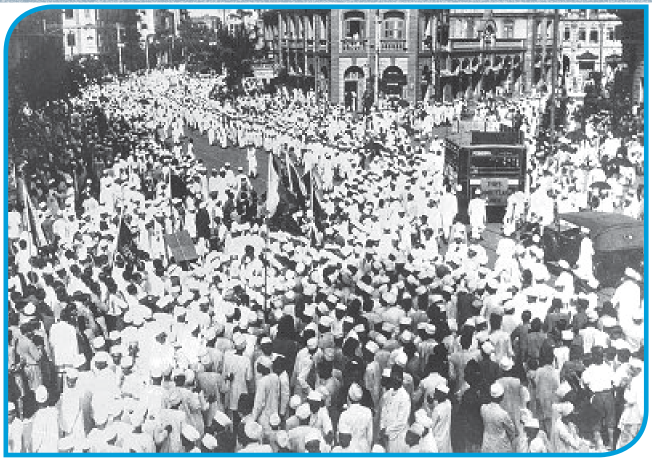
Mahatma Gandhi's compassion, dedication and determination are all embodied in his visit to Calcutta to stem the communal killings there rather than be in New Delhi to participate in the Independence Day celebrations on August 15th, 1947. "The interior voice tells me to go on fighting against the whole world, even though I am alone." His favourite hymn during all such periods of crisis was Tagore's 'Ekla Chalo Re', which in English translation reads as under:

"If no one listens to your call, walk alone. If in fear, they cower mutely facing the wall, O hapless one, open your mind and speak out alone"

James K. Mathews commends Mahatma Gandhi's determination thus: "In great part his secret of leadership was in his strength of purpose. He was ever and ever restating it so that it might be clear to himself and to his associates."

Mahatma Gandhi's dedication, particularly to India's unity and prevention of its partition is testified by his fourteen meetings with Jinnah in September 1944 during which he even

offered him the Prime Minister's office but to no avail. He humbled himself to go to Jinnah's residence at 10 Mount Pleasant Road, Mumbai for all these meetings even though his national and international stature was much higher than Jinnah's.



His determination is also seen in his historic "fast unto death" in September 1932 over the British grant of a separate electorate for "untouchables".

Communication Skills

Mahatma Gandhi's communication skills were initially honed by his letter writing to South African and British authorities and newspapers. In 1904 he started his first newspaper 'Indian Opinion' in South Africa and subsequently in India 'Young India' and 'Harijan' (both in English) and Navjeevan (in Gujarati). In all these he wrote extensively on various current issues so as to keep all concerned, including his opponents, well informed of his ideas, programmes and plans.

His remarkable booklet 'Hind Swaraj', a manifesto for India's independence, was written in just ten days between November 13-22, 1909 on board the ship 'Kildonan Castle' while returning to South Africa after a fruitless lobbying mission to London. It was written entirely on the ship's stationery and according to some sources "when the right hand got tired he continued with the left" writing 40 of the 275 manuscript pages thus. It was as if Divine revelation was impelling him to write as it was being imparted to him. Antony Parel avers, "Hind Swaraj is the seed from which the tree of Gandhian thought has grown to its full stature. For those who wish to study his thought more methodically it remains the norm by which to assess the theoretical significance of his other writings, including the autobiography. It has been compared to such diverse works as Rousseau's Social Contract and the Spiritual Exercises of St. Ignatius Loyola". However, his Autobiography subtitled, 'The Story of my Experiments

with Truth', published in 1927, is the most communicative of all his writings and frankly reveals details of his upbringing, youthful foibles, early marriage, strong sexual drive and efforts to sublimate it, and the spiritual and literary influences that shaped the evolution of his personality.

His other means of communication were his satyagrahas, padayatras, fasts and prayer meetings. Of these his Chamaparan, Kheda, Bardoli and 'Quit India' Satyagrahas, Transvaal & Dandi padayatras and 1932 and 1947 fasts were the most impactful.

His historic Salt padayatra (march) and his publicly breaking the salt law was a communications masterpiece. British Journalist Webb Miller's on-site report on it was carried in over 1,000 newspapers worldwide. The New York Times editorialized that whereas Britain had lost America on tea, it was losing India on salt ! TIME magazine put him on the front cover of its January 4, 1931 issue as its 'Man of the Year'.

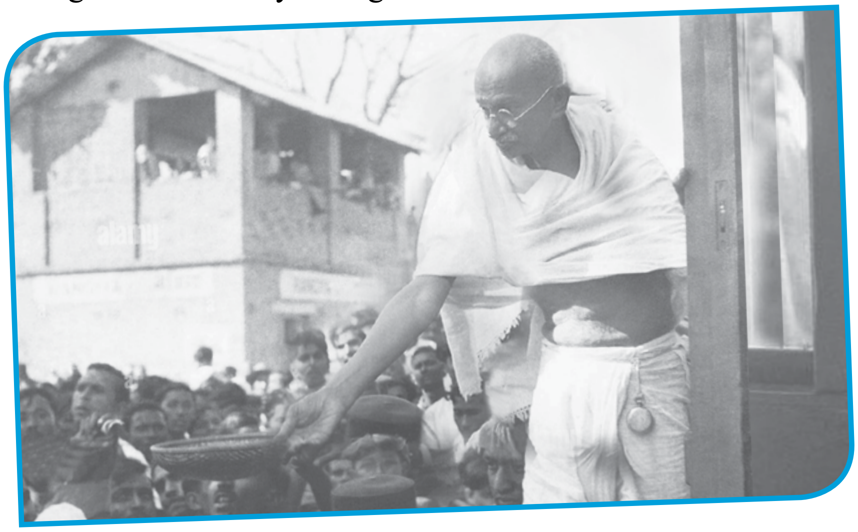
Mahatma Gandhi's communication skills transformed India's freedom struggle from one waged by a small, elite, urban group into a mass movement in which millions of Indians, from every strata of society, enthusiastically participated. It was the largest, "People's Power" struggle in history.

Organizational Skills and Charisma

Mahatma Gandhi's organizational skills are best seen in the manner in which he restructured the Indian National Congress between 1915 and 1930. When he joined, it had many weaknesses. Its proceedings were conducted in English even though less than 1% of India's then population of 250 million spoke it. It was predominantly Hindu, Brahmin and high caste. Its membership was largely from the big cities of Calcutta, Bombay and Madras. It lacked effective executive machinery.

Mahatma Gandhi's great achievement in inducing these men, and subsequently mnay other such people from India and abroad, to join him is ample proof of his incredible charisma.

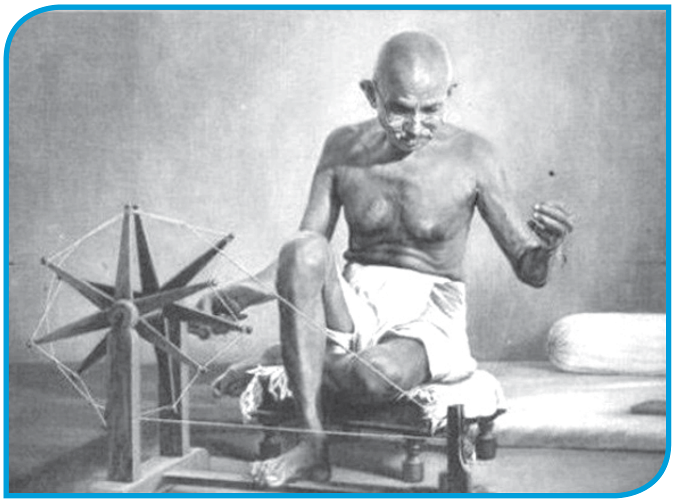
His first move was to set up an ashram at Kochrab village in Gujarat. With this his operational base was firmly planted in rural India and close to the peasants. When cholera struck this area some months later, the ashram was moved to Sabarmati village, close to Ahmedabad. Both these ashrams, like his Phoenix Settlement and Tolstoy Farm in South Africa, were centres for training in community living and non-violence as "Training is as necessary for civil disobedience as for armed revolt".



Strategizing Skills

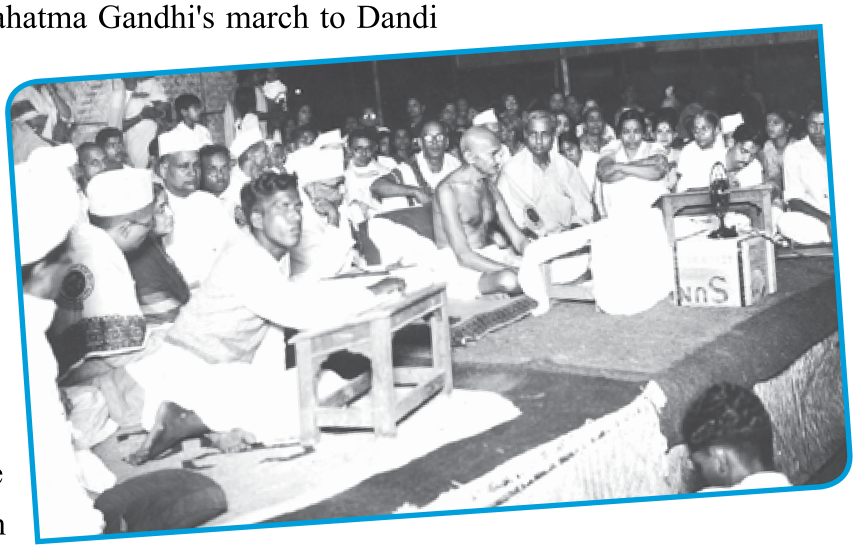
Good leadership also requires excellent strategizing skills. Mahatma Gandhi proved a genius at it. By combining Truth, non-violence and self-suffering he fashioned his innovative Satyagraha strategy.

Mahatma Gandhi's choice of the Charkha as the prime weapon of India's national struggle is a good example of his strategizing skill. Until then, spinning was primarily a female activity and very few men, if any, had ever been involved in it. In his autobiography Mahatma Gandhi reveals "I do not remember having seen a handloom or a spinning wheel when in 1909 I described it in Hind Swaraj as the panacea for the pauperism of India. Even in 1915 when I returned to India from South Africa I had not actually seen a spinning wheel". By conceptualizing it as the panacea for India's economic distress and making its use mandatory for everyone in the national struggle, he undermined Britain's economic dominance of India, brought equality between women and men in spinning activity and between them and the untouchable, who previously was engaged only in scavenging and other despised work. "The spinning wheel is the solace of the untouchable whom we have hitherto so sinfully despised". Hand-spun, hand-woven clothes and caps became the standard garb of Indian



nationalists and foreign clothes ended up in bonfires. India's weaving industries revived and the sale of British textiles in India declined considerably. Export of British textiles to India dropped from 90.6 million pounds in 1924 to 83.9 MP in 1928 to 52.9 MP in 1930. The Secretary of State for India acknowledged in the House of Commons that whereas the Great Depression had resulted in a 25 percent drop in British textile exports to India, their further 18 percent fall was due "directly to the boycott programme carried on by the Indian National Congress. "During the October 1930-April 1931 period, when this boycott was at its height, said decline reached 84 percent! Fischer commends Gandhi's Charkha strategy thus: "Mahatma Gandhi was trying to bridge brain and brawn, to unite city and town, to link rich and poor. To help the underdog you must understand him and to understand him you must at least sometimes work as he does. Spinning was an act of love, another channel of communication. It was also a method of organization. "Any single district that can be fully organized for Khaddar is, if it is also trained for suffering, ready for civil disobedience", he said.

The Salt March is especially notable for its strategizing aspect. Judith Brown extols it as "a superbly ingenious choice". Salt, a daily requisite for even the poorest individual, was abundant in the seas along India's long coastline. Yet Indians were barred from making it. Only the colonial government could produce and sell it. Besides, a tax levied on it annually collected Rs.60 million. Mahatma Gandhi's march to Dandi with 78 of his well trained disciples was carefully planned to pass through areas well prepared for Satyagraha over several months. Hundreds joined the march enroute. By the time they reached Dandi the marchers were in the thousands. With all of them



joining Mahatma Gandhi in making salt, and millions of others doing likewise in coastal towns and villages all over India, it was mass defiance of an unjust British law, and "insurrection without arms", as Fischer describes it.

Management Skills

The prime management elements in Mahatma Gandhi's satyagrahas, padayatras, fasts, prayer meetings and negotiations with political rivals and the British rulers were transparency, methodical and humane approach, and insistence on ethical means to achieve the desired objectives.

His completely transparent approach emanated from his dedication to Truth. He affirmed:

"Secrecy aims at building a wall of protection around you. Ahimsa disdains all such protection. It functions in the open in the face of odds, the heaviest conceivable. We have to organize for action a vast people that have been crushed under the heel of unspeakable tyranny for centuries. They cannot be organized by other than open, truthful means."

Magnanimity

Mahatma Gandhi's magnanimity is best seen in his forgiveness of those who hated, reviled and attacked him.

Self Assurance

Mahatma Gandhi, like Abraham Lincoln, was well endowed with self assurance, composure and humour. It enabled them to remain unruffled even when false accusations and ridicule were hurled at them.

Enlightened Views on Religion, Patriotism and Nationalism

Gandhi's fundamental contribution in the field of religion was to give primacy to Truth and rationality rather than conformity to traditional practices. In fact he made Truth the basis of all morality by declaring, "I reject any religious doctrine that does

MAHATMA GANDHI ON TAMILS AND TAMIL LANGUAGE

No other Indian can equal the performance of the Tamils in this fight (Satyagraha in South Africa). It therefore occurred to me that I should read Tamil with close attention, if for no other reason than to tender sincere thanks to them at least mentally. Accordingly, the last one month was devoted mostly to the study of Tamil. The more I learn it, the better I appreciate the beauties of this language. It is a very fine and sweet language, and from its structure and from what I have read in it, I find that the Tamils have produced, and still produce, a large number of intelligent, thoughtful and wise men. Moreover, since India is going to be one country, some Indians outside Madras should also learn Tamil.

-from Indian Opinion, dated 05.06.1909.

not appeal to reason and is in conflict with morality".

Though a deeply devout Hindu, Mahatma Gandhi's basic approach to religion was 'sarvadharma samabhav' (equal respect for all religions). For him all religions had equal status and were different paths to the same goal of achieving union with the Divine. His religion was that "which transcends Hinduism, which changes one's very nature, binds one indissolubly to the truth within and ever purifies. It is the permanent element in human nature which leaves the soul restless until it has found itself". He affirmed "For me different religions are beautiful flowers from the same garden or branches of the same majestic tree". At his prayer meetings there were readings from all the holy books. His favorite hymn began with the line "He alone is a true devotee of God who understands the pains and sufferings of others".

For him "The hands that serve are holier than the lips that pray". His religion essentially was a deeply spiritualized humanism.

Broad Spectrum World View

Though fully engaged in India's freedom struggle, Mahatma Gandhi never lost sight of the world and its travails. His world view was all inclusive and broad spectrum. Having studied in England he was well acquainted with its politics, culture and people.

From the book
'Gandhi's Outstanding Leadership'
By Pascal Alan Nazareth

Manage your Time well

Moments make hours, which make days, which make months and that, in turn, makes years and a lifespan. Time is your most precious possession in life. That is why the saying, "Time is money." The importance of time cannot be overemphasized.

As it is one of the most valuable commodities, we should never waste time. To waste time is to waste a part of your life. You should, therefore, show respect for time and try your best to manage it well. Good prioritizing is the core of good time management.

The saying goes, "Take time by the forelock."

Here are some useful tips for time management:

- Spend your time usefully in constructive pursuits.
- Complete your work on time so you do not have to find excuses for not doing what is required to be done.
- Never put off till tomorrow what can be done today. Procrastination is harmful and must be avoided.
- Do not waste your time in idle gossip and other unwanted activities.
- Get up early in the morning and chalk out your programme for the day.
- Always try to be punctual and prepare for your engagements well in time.
- Plan your activities well in advance.
- Set goals, Prioritise, organise.

Lost time never comes back even as lost opportunities never come back. Time cannot be saved for future use. Proper time management calls for doing the right thing at the right time and making the most of the time available to us; for as the saying goes, "Time and tide wait for none.".

From the book 'Personality Development'

by J.M. Mehta

Eat vegetables and fruits, keep away diseases

Why should we eat vegetables/fruits?

Fresh vegetables and fruits are rich sources of micronutrients and macro nutrients. The micro nutrients present are minerals (like iron and calcium) and vitamins (like vitamin C, folic acid, B complex vitamins and carotenoids) whereas the macro nutrients present are complex carbohydrates/fibre. They contain abundant amounts of iron, calcium, vitamin C, folic acid, carotenoids (precursors of vitamin A) and phytochemicals. Some vegetables and fruits provide very low calories, whereas some others such as potato, sweet potato, tapioca and yam as well as fruits like bananas are rich in starch which provides energy in a good amount. Therefore, vegetables and fruits can be used to increase or decrease calories in our diet.

What functions do these nutrients and special factors in vegetables/fruits perform in our body?

Iron

Iron is an essential element necessary for the formation of haemoglobin, the red pigment present in the red cells of blood. Haemoglobin plays an important role in the transport of oxygen to the tissues. Reduction in haemoglobin in blood leads to anaemia, a condition characterised by paleness and easy fatigue and increased susceptibility to infections. Iron is available in plenty in green leafy vegetables. But the absorption of iron is limited. Vitamin C rich foods must be consumed daily to improve iron absorption.

Vitamin A

This fat-soluble vitamin is necessary for clear vision in dim light, and for maintaining the integrity of epithelial tissues. In vitamin A deficiency, the white of the eye (conjunctiva) loses its luster and becomes dry. In severe vitamin A deficiency, the black area of the eye (cornea) gets necroses, leading to irreversible blindness in young children. Vitamin A also has a role in maintaining resistance of the body to

common infections. Carotenoids are plentiful in fruits and vegetables that are green or deep yellow/orange in colour, such as green leafy vegetables, carrots, tomatoes, sweet potatoes, papaya, mango etc.

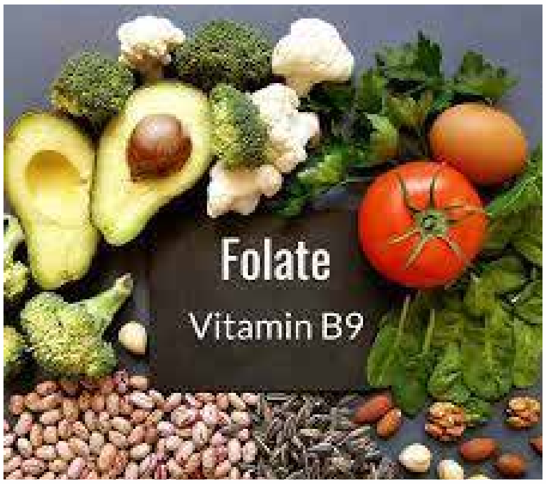
Vitamin C

Vitamin C is an essential nutrient required for healthy bones and teeth. It also promotes iron absorption. Vitamin C deficiency is characterised by weakness, bleeding gums and defective bone growth. Vitamin C is abundantly available in fresh amla, citrus fruits, guava, banana and certain vegetables such as tomatoes.

However, it is very susceptible to destruction by atmospheric oxidation. It is for this reason that when vegetables become dry and stale or cut and exposed to air most of the vitamin C originally present is destroyed.

Folic acid

Folic acid is a haemopoietic vitamin essential for multiplication and maturation of red cells in our body. Its deficiency leads to megaloblastic anaemias. Folic



acid intake during pregnancy protects the foetus from developing certain congenital defects. It also promotes the birth weight of infants. Folic acid deficiency increases homocysteine levels in blood, thereby increasing the risk for heart disease. Green leafy vegetables, legumes, nuts and (beef) liver are good sources of folates.

Calories

Many of the vegetables and fruits have low calories. Large intake of low calorie vegetables and fruits can help in reducing calories in diet and help in obesity management. On the other hand vegetables like colocasia, potato, tapioca, yam, sweet potato and fruits like banana, avocado, pear (215 Kcal) and mahua (111 Kcal) have more than 100 kcal per 100 grams.

Phytonutrients

Vegetables provide phytochemicals and are of considerable health significance to the human body. Among these, dietary fibre, antioxidants and other bio-active constituents require special mention. These special factors are required for delaying aging and preventing the processes

which lead to diseases such as cataract, cardio-vascular diseases, diabetes and cancer.

Dietary Fibre

Dietary fibre delays the intestinal transit of the food consumed. Dietary fibre is important for proper bowel function, to reduce chronic constipation, diverticular disease, haemorrhoids, coronary heart diseases, diabetes and obesity. They also reduce plasma cholesterol. The protective role of dietary fibre against colon cancer has long been recognised.

Antioxidants

In the recent past, the role of vegetables and fruits as sources of antioxidants has been receiving considerable attention. Antioxidants restrict the damage that reactive-oxygen free radicals can cause to the cell and cellular components. They are of primary biological value in giving protection from certain diseases. Some of the diseases that have their origin in deleterious free radical reactions are atherosclerosis, cancer, inflammatory joint diseases, asthma, diabetes etc. Raw and fresh vegetables like green leafy vegetables, carrots, fresh fruits including citrus and tomatoes have been identified as good sources of antioxidants (free radical- scavengers). The nutrients vitamin C and carotenoids that are present in these vegetables are also potential antioxidants. Different coloured vegetables provide different antioxidants such as orange-coloured provide beta-carotene, red-coloured provide lycopene, deep red-coloured provide betalains, blue and purple-coloured provide anthocyanins.

How much should we consume?

The Expert Committee of the Indian Council of Medical Research, taking into consideration the nutrient requirements, has recommended that every individual should consume at least 300 gm of vegetables (GLV : 50 gm; other vegetables : 200 gm; Roots & Tubers : 50 gm) in a day. In addition, fresh fruits (100 g), should be consumed regularly. Since requirements of iron and folic acid are higher for pregnant women, they should consume 100 gm of leafy vegetables daily. High-calorie vegetables and fruits are to be restricted for overweight/ obese persons.

Which vegetables and fruits should be consumed?

We should consume fresh, locally available and preferably seasonal vegetables and fruits. They have more micronutrients and are tasty. However, no single fruit or vegetable provides all the nutrients you need. The key lies in eating a variety of them and with different colours.

Include commonly consumed leafy greens, tomatoes and other vegetables, apart from those which are yellow, orange, red, deep red, purple-coloured. Citrus fruits, being vitamin C-rich, enrich the diet significantly. Along with these, try selecting some new vegetables and fruits to your meals.

How to prevent cooking losses

Vitamins are lost during washing of cut vegetables and cooking of foodstuffs. However, proper methods of cooking can substantially reduce these losses. Nutrient loss is high when the vegetables are washed after cutting or when

they are cut into small pieces for cooking. Consumption of properly washed raw and fresh vegetables is always beneficial.

How do we get these foods?

Green leafy vegetables (GLVs) and other vegetables and fruits are easily available. Most vegetables, particularly GLVs, are inexpensive. In fact, these foods can be grown in the backyard with very little effort and cost. Even in lean seasons like summer, they can be grown using water and waste from the kitchen.

How to accommodate more servings of vegetables and fruits in a day?

To get the maximum nutritional benefits from fruits and vegetables, it is important to find ways to eat more servings of vegetables and fruits per day.

Points to Ponder

❖ Eat as many other vegetables as possible daily.

❖ Eat vegetables/ fruits in all your meals in various forms (curry, soups, mixed with curd, added to pulse preparations and rice).

❖ Consume raw and fresh vegetables as salads.

❖ Grow the family's requirements of vegetables in the kitchen garden if possible.

❖ Green leafy vegetables, when properly cleaned and cooked, are safe even for infants.

❖ Let different varieties of vegetables and fruits add colour to your plate and vitality to your life.

❖ Beta-carotene rich foods like dark green, yellow and orange-coloured vegetables and fruits (GLVs, carrots, papaya and mangoes) protect you from vitamin A deficiency.

-from 'Dietary guidelines for Indians – a manual'

by NATIONAL INSTITUTE OF NUTRITION

How games developed down the ages

Life was a struggle for early man. He had to fight with nature and animals. This fight taught him many lessons in his life. Such thoughts or experiences may have given him the ability to understand nature and cope with a life of struggle.

Man used to jump, run, swim and climb trees for self-defence. When the need arose,

he used to attack with the help of sticks and stones. As a result of this he began to hunt. Experienced hunters were trained. As a result, training in marksmanship and use of weapons developed.

During the transition from nomadic life to settled life, wars often broke out between groups. Training was also given on warfare.

Eventually, the need for hunting decreased as farming and subsistence on farm produce began. During the period when civilization and culture began to develop among the people, the activity of war decreased, and the exercises based on hunting and warfare may have turned to a different direction in terms of application. In other words, games aimed at mental happiness and as a display of bravery.

Acting out the actions of other creatures also became a sporting tradition. Natural actions of beasts, like the movement of

monkeys, crawling of frogs and kicking action of donkeys came to be mimicked in games.

Over time, games became a reflection of life and work.

Games emerged with social contradictions. They were meant to illustrate the contrast between the king and the commoner.

It can be seen that the games of the early period are based on hunting and warfare, and the games that seem new reflect the society of that time.

Use of games

Men's sports based on physical prowess promoted heroism.

This bravery is used in self-defense and to please others.

Men's intellectual games develop thinking skills.

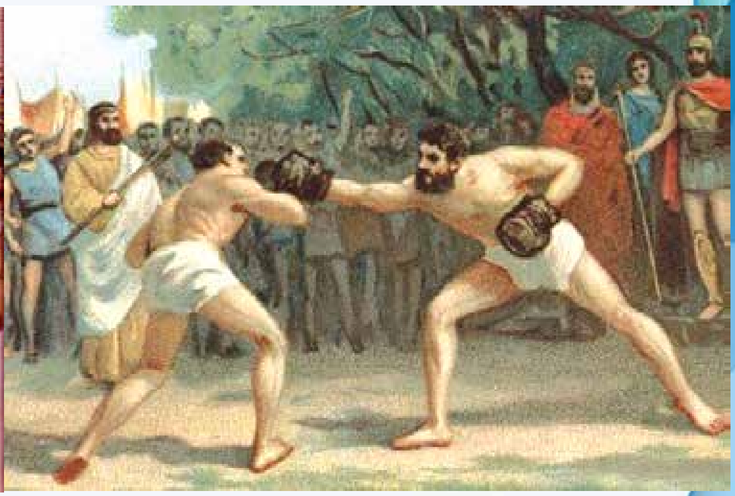
Women's sports are meant for entertainment and enjoyment. However, games of chance like solitaire can be considered training in thinking about what will happen next.

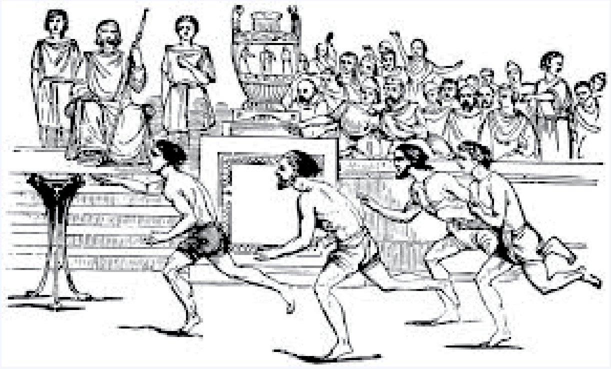
Children's games can provide training for running, searching, finding hidden objects, target shooting and jumping.

Vocational games for children can be considered as training for vocational education.

Life-related games for girls are training for their life. Group-based games for boys and girls have led to the development of the following character interests.

- ❖ By obeying the rules of the game, one learns how to function under different conditions.





❖ A sense of 'oneness' occurs when we act together with the single goal of success.

❖ On the basis of 'solidarity' it can be said that 'common purpose' is strengthened.

❖ A leader who takes the lead in sports develops 'responsibility'.

❖ A leader's ability to work with humility without being proud of success and discouraged by failure is strengthened.

❖ Games create a sense of co-operation among team members.

❖ The sense of compassion to help someone in danger is a benefit of sport.

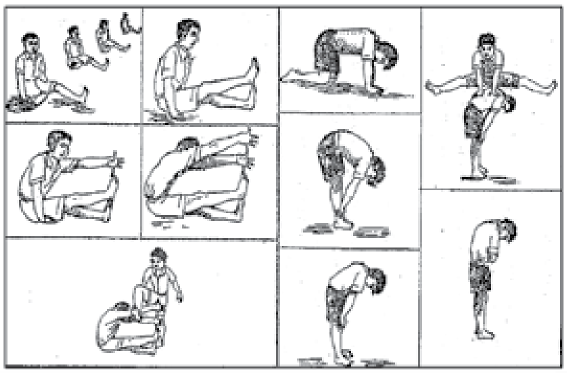
Group games that train kids in jumping

Pacha-kuthirai

This is one of the games where one person bends down and touches the toe and other players jump over the bent person. Starting with one person this game progresses with 4 to 5 people, bending down and other people try to jump over them without much of a break. There are three actions in this game. One is to jump high, two is to jump without knocking over a crouched person, and three is to jump in succession. The benefit of this game is children acquire the habit of jumping high and continuous jumping.

Kaal Thaandi

This game is an interpretation of nature as a game method. In the beginning, a person stretches out his leg and everyone else jumps over it. That is why it got the name 'Kaal Thandi'. A player first sits in the ground extending his legs in front. The other players jump over the legs. The sitting player keeps one leg above the other. All the other players jump over this. The sitting player keeps one hand above both the legs. The sitting player keeps both hands one above the other over the legs. The sitting player bends, keeping his knees on the ground. The sitting player stands and bends, keeping his hands on the knees. The sitting player stands with head held low. Each player jumps over the sitting player in all rounds, the players who complete all rounds win. If a player fails to jump over the hurdle at any round, he / she gets out. In the next round, the player who got out first takes the position of sitting player.



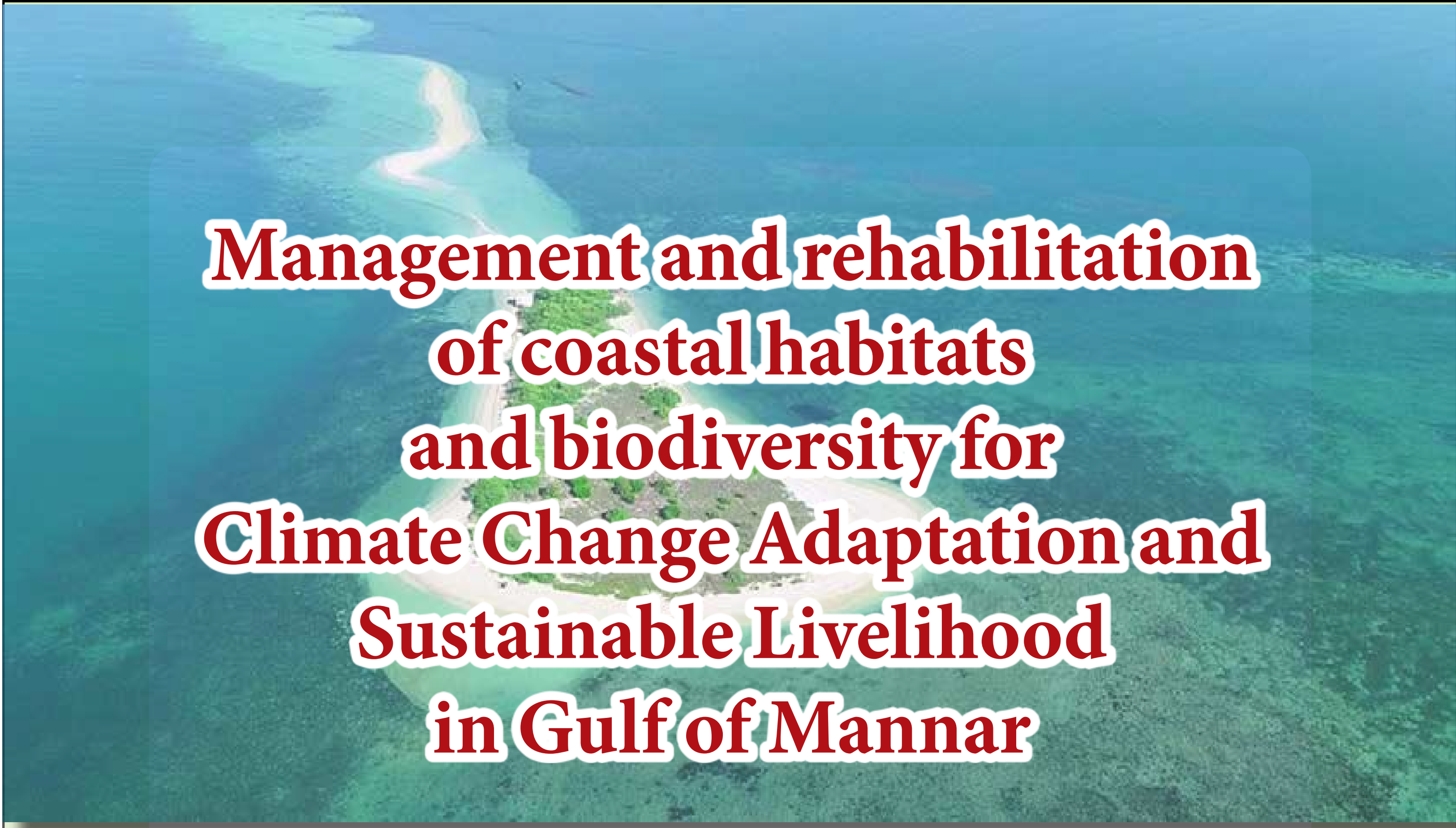
Toenail: A bent position with the toe touching the toenail.

Spoon: Crouching position holding the spoon above the foot with the hands.

Knees: Crouching position with hands clutching the knees.

Clasping hands: A position of standing with the head down and the hands clasped.

Hip: Standing position with head down and hands on hips. This game can be compared with the modern sport of high jump. Boys can get high jump training through this sport.



Management and rehabilitation of coastal habitats and biodiversity for Climate Change Adaptation and Sustainable Livelihood in Gulf of Mannar

Climate change has become the most significant threat to coastal areas, posing serious harm to both the coastal ecosystem as well as coastal communities. The climate change impacts on the coastal zone includes increase in sea-surface temperatures, increase in rainfall intensity, rising sea levels, increase in intensity of cyclones and storm surges. This in turn will impact the ecosystem and health of the dependent communities. The key coastal habitats such as mangrove, wetland, seagrass, estuary and coral reefs are of high importance for their functions and services like carbon management potential and increase of resource productivity for livelihood to dependent communities. They are vital for the food security of coastal communities in developing countries, providing nurseries and fishing grounds for artisanal fisheries. Hence, considering all those effects it is mandatory to undertake this kind of project to build resilience among coastal ecosystems and communities through habitat recovery and improvement and sustainable livelihood development. Under the National Adaptation Fund for Climate Change, the captioned project is being implementing successfully with a positive outcomes.

Objectives:

- To carry out a baseline study to assess vulnerability to climate change of both coastal ecosystems (including biodiversity and fishery) and coastal communities in the Gulf of Mannar.
- To restore habitats (coral reef and sea grass rehabilitation) in Kariyachalli and Vilanguchalli Islands as a climate adaptation strategy.
- To build climate change resilience to the fast eroding Vaan Island through

deployment of artificial reef modules.

- To promote eco development activities among coastal communities to enhance their adaptive capacity and to sustain livelihood and food security.

Potential contribution to climate resilience

Baseline survey: The baseline data will provide the basis for adaptation planning and implementation of the restoration and rehabilitation activities and also the eco development activities.

Coral reef rehabilitation and Artificial Reef deployment

Both the rehabilitated reefs and the artificial reefs will not only increase the biodiversity in the area, but will also protect the islands from erosion and submergence due to sea level rise. Further, these areas will provide sustained livelihoods for fishermen.

Sea grass rehabilitation

The rehabilitation of sea grass ensures habitat

creation for several corals, fish and associated species which will lead to protection of islands against the impacts of climate change.

Eco-development adaptation activities

Climate change induced impacts such as sea-level rise, coastal erosion are a constant threat to fishermen communities, therefore promoting an alternate source of income will ensure a steady income and an improved standard of living among the local communities. Through this project, the coastal community can adapt effectively to overcome climate change impacts.

Project Activities

The Climate Change

Vulnerability studies of coastal communities and ecosystems along the 364.9 km line of Kariachalli and Vilanguchalli Islands of Gulf of Mannar were carried out. Coral and Sea Grass Rehabilitation was done in 4.0 sq.km of degraded reef and sea grass habitat. Coral fragments of diverse native corals (8-11 cm size) were extracted from the donor coral reefs and tied with rope to the cement slabs (20 cm x 15 cm x 5 cm) which were deployed under water. About 6,000 Artificial Reef modules of Ferro-cement and Reinforcement Steel (each of the size 2.5m width, 2m height and 1m longitudinal length) were deployed near Vaan Island. The eco-development activities such as infrastructure development, alternate livelihood activities, ecotourism activities, provision of micro-credit revolving funds, and nurturing of SHGs, etc., were undergoing in 23 coastal villages.

Area covered

* Baseline survey on coastal habitats and associated bio diversity between Rameswaram and Kanniyakumari.

* Assessment of current fishing pattern and Baseline vulnerability assessment of fishermen and coastal community and Eco-development Activities - 23 fishing villages of Thoothukudi District.

* Artificial Reef Deployment in Vaan Island, Thoothukudi District.

* Seagrass Rehabilitation and Coral Rehabilitation in Kariyachalli and Vilanguchalli Islands of Thoothukudi District.

Benefits of the project

* The protection of Vaan Island through deployment of Artificial Reefs helps reduce coastal erosion in the nearby coastal area and maintain the integrity of island ecosystem

with rich coral reefs, sea-grass beds and associated biodiversity.

* Successful placement of AR modules surrounding the Vaan Island led to increase of soil accretion and expansion of island's size from 2.33 Ha (December 2015) to 3.62 Ha (August 2019) during Low Tide line and 1.53 Ha (December 2015) to 1.94 Ha (August 2019) during High Tide line, which provides reclaimed habitats for marine Biodiversity.

* The deployed multipurpose artificial reefs helped enhance the fish biodiversity and coral density in particular reduced the shoreline erosion of Vaan Island against the impacts of climate change, providing sustainable livelihoods for fishermen.

* Coral reef rehabilitation and sea grass rehabilitation will not only increase the biodiversity in the area, but will also protect the islands from erosion. It enhances the associated biodiversity in 4 sqkm of each in Kariyachalli and Vilanguchalli Island. Based on the fish species survey in the rehabilitation site a total of 21 and 18 coral associated fish species were recorded in Kariyachalli and Vilanguchalli Island respectively, during January 2018 to May 2019.

* Overall survival rate of the transplanted fragments exhibited highest and found in Kariyachalli Island with 97.39 percent whereas in Vilanguchalli Island with 95.32 percent accordingly. In seagrass rehabilitation percentage cover was gradually increased from 9.1 percent and 9.8 percent (January 2018) to 18.89 percent and 17.42 percent (July 2019) in Kariyachalli Island and Vilanguchalli Island respectively.

* The coral rehabilitation using climate resilient and resistant coral species help to withstand the coral reefs against the climate change impacts and to maintain the ecological services without loss.

* The biodiversity survey between the Rameswaram and Kanniyakumari provides data to understand the present status of coastal habitats and associated biodiversity so as to take effective conservation and management measures focusing to address the climate change impacts.

* The vulnerability assessment along the coastal villages provides data on the level impacts to the village due to climate variations and help to take appropriate remediate measures through need based interventions.

Under eco-development activities of this project, coastal communities in and around Thoothukudi District are getting benefited. Through training on livelihood schemes about 792 fisher-folk were benefited. Awareness programmes were conducted in 64 Eco-development Committee (EDC) villages and in 8 different schools and colleges and about 21,941 coastal communities participated. Due to this project activity, coastal communities of Thoothukudi District benefited in various aspects like Self Help Group (SHG) activities, Training, Infrastructure development, etc.

-Department of Environment and Climate Change

(https://www.environment.tn.gov.in)

World Environment Day - June 5

It's time we brought restoration to the land

World Environment Day is a global event aimed at raising awareness and encouraging action for the protection of our environment. It has developed as a platform to raise awareness on the problems facing our environment such as air pollution, plastic pollution, illegal wildlife trade, sustainable consumption, sea-level increase and food security. Celebrated on 5th June every year, the event aims to spread awareness about climate change, pollution, deforestation and loss of biodiversity. Hence, as we move forward, the significance of World Environment Day grows more profound. Let's dive into the theme, history and activities related to Environment Day.

World Environment Day Theme 2024

Every year, a specific theme is chosen to shed light on a particular environmental concern. The theme of World Environment Day 2024 is 'Land restoration, desertification and drought resilience'. The slogan for the event will be "Our Land, Our Future". We are "Generation Restoration." Land restoration is a critical pillar of the World Environment Day 2024 theme and the organisers wish to rally people for the revival of ecosystems around the world.

Connect with Nature

On World Environment Day, you can plant a tree or try vegetable farming to get your hands dirty and feel more in touch with nature. Spending time outdoors is also an excellent way to connect with the natural world and take a step towards a greener future.

Source : Excerpts from 'Geneva Environment Network'

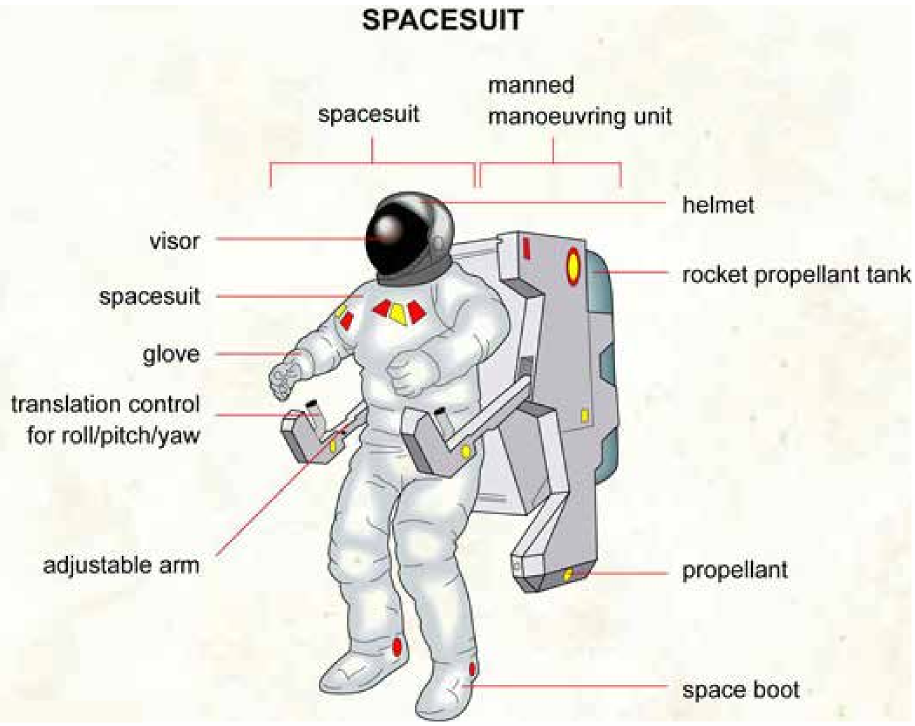
Challenging adventures into outer space

The Idea of space travel has engaged human imagination since time immemorial. Human beings dreamed of escaping the bounds of the Earth to explore the heavens beyond even before it was realized that it would be indeed possible if proper technologies could be developed. It took thousands of years to realize the human's dream into reality and humans could go to the Moon and come back to Earth. Going to the orbit of the Earth for conducting scientific experiments has become a routine affair.

The word 'ASTRONAUT' comes from Greek words that mean sailor among the stars. The word 'cosmonaut', the Russian word for astronaut, means a sailor of the universe. In this book we will use these two words interchangeably. An astronaut is a person trained to work in space. Space is a dangerous place for a human being. In space there is no air to breathe. An astronaut without a spacesuit would explode in space. This is because the human body is conditioned to work under the constant pressure of the Earth's atmosphere. In space there is no atmosphere.

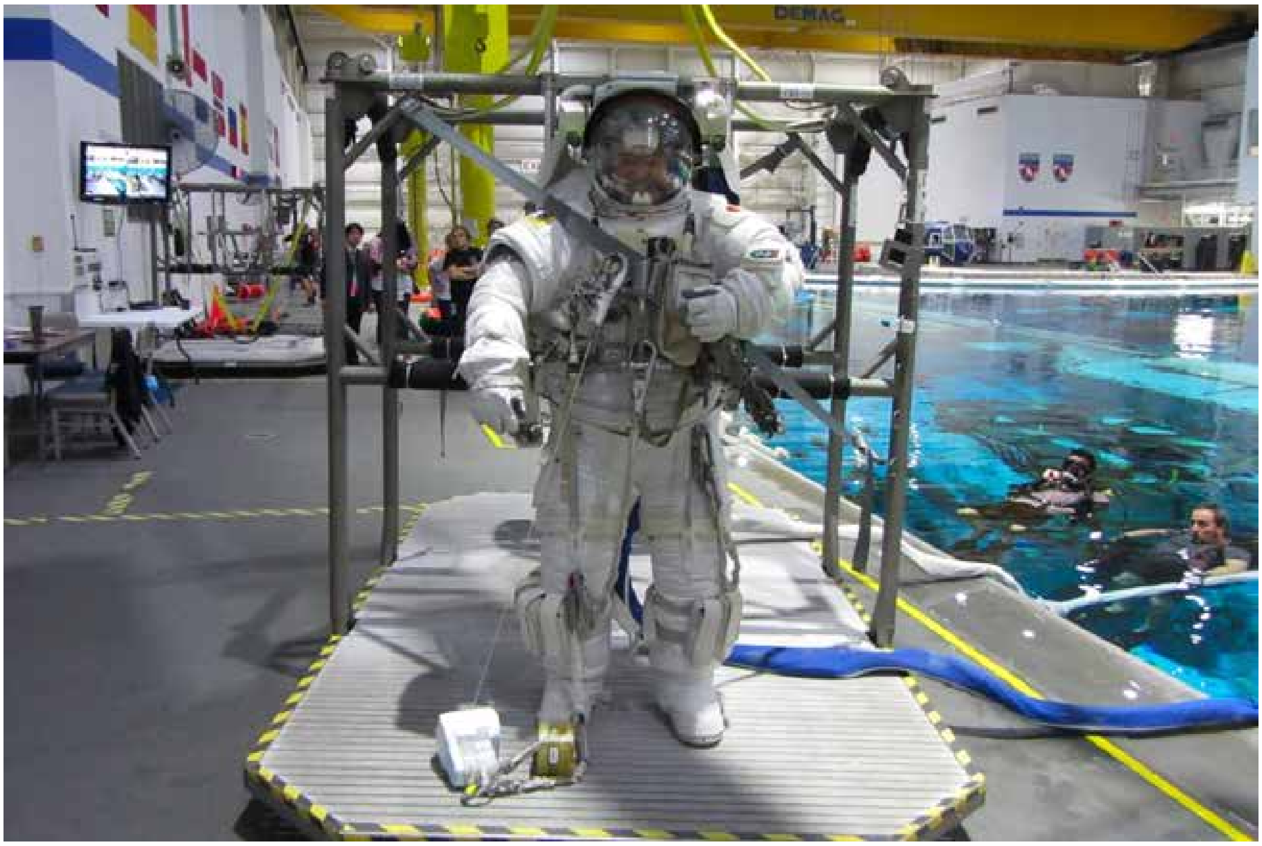
Not only is the journey to Space fraught with dangerous consequences but also the conditions in space are far from conducive for a human being to live.

After being selected one must go through an extensive training. It involves in-shuttle systems, including guidance, navigation and orbital dynamics. Theoretical subjects like physics, mathematics, meteorology, astronomy, geology and so on are also taught. The astronauts have to learn to cope with micro-gravity (weightlessness) conditions and simulate space-walks. They are trained in mock-ups of space shuttles and in safety subjects including ejection and emergency landing procedures. They are required to learn scuba diving, parachute jumping, land and sea survival training and they also practice to deploy satellites, repair or retrieve stranded satellites or fix a malfunctioning telescope.



An astronaut must put on a spacesuit in space. The space-suit provides an insulated, air-conditioned cocoon in which astronauts can live and work for hours at a time while outside the spacecraft. Inside the suit there is a special garment with tubes that water flows through - it keeps the body at comfortable temperature even during vigorous work. The suit provides air to breathe, and removes exhaled carbon dioxide and moisture. The outer layer of the spacesuit is capable of insulating the astronaut from the extremes of heat and cold in space (-150 degrees Celsius in the shade to + 180 degrees Celsius in sunlight). It also protects the astronauts from the impact of small meteorites. Some spacesuits have a rocket-powered backpack, called a maneuvering unit. This unit enables an astronaut to move around the spacecraft. Thrusters in the unit enable the astronaut occupying it to move in different directions. Getting dressed for work outside a spacecraft is a complicated task.

We have weight because of the gravitational pull of the Earth. Earth's gravity keeps the astronauts and their spacecraft in the orbit around it. However, within the spacecraft in space there is no force, which can hold the astronauts to their spaceship. So, the astronauts float around inside the spaceship. This is called weightlessness. There is no air in space to carry sound waves, so astronauts communicate by radio.



An astronaut must learn how to perform the necessary manoeuvres in an environment of weightlessness. For example, the simple act of changing one's pants can cause tumble head over heels. The toilet is complicated, often it does not work the way the astronauts would like it to work. Astronauts cannot take normal baths, they sponge bathe.

About 40 percent of astronauts suffer from space sickness or space adaptation syndrome feeling of nausea, sometimes accompanied by vomiting. It is similar to ordinary travel sickness, and is thought to be caused by confusion of the body's balancing mechanism, located in the inner ear, by weightlessness.

Astronauts have jobs to do during their mission. Based on their duties the astronauts can be grouped into three categories: Pilot astronauts, mission specialists and payload specialists. Pilot astronauts command and pilot a spacecraft. Mission specialists' are entrusted with the responsibility of maintaining the spacecraft and the equipment aboard. They carry out these tasks along with the pilot astronauts. In addition, the mission specialists also conduct experiments, launch satellites and perform space walks to work outside the spacecraft. A payload specialist carries out scientific experiments involving payload (cargo) on the spacecraft. Most payload specialists are scientists, who work for the owner of the payload.

While on board spacecrafts, astronauts consume the same kind of food and drink as they do on Earth. Astronauts are required to do

regular exercises. Special exercise machines help the astronauts.

Every astronaut who has seen the Earth from space is fascinated by it. Rakesh Sharma said: "The most special moment has to be when you first look back at planet Earth. Then there is the vast emptiness around, which is starkly beautiful. Add to this is the pain and pleasure of being in zero gravity; pain of working in it and the pleasure of just being in it! I do not believe astronauts seek any non-material reward. It would be selfish of them if they did. After all, they have been enriched beyond belief in this area by virtue of the fact that they have experienced the sheer exhilaration of space flight when so many others have not yet had the chance of doing so."

Kalpana also echoed similar sentiments when she told in an interview: "With arms and legs loosely tucked in, I hung by the large flight deck windows and looked at the day and night sides of Earth as oceans and continents rolled by quietly. The colours and the beauty were immense and heart-rending. The sense of life tucked in out there in the bays, islands and atolls was obvious. I was overwhelmed most by the sense that it took only 90 minutes to circle the planet. Just 90 minutes. Even though I had known that, it was an overpowering sensation to know how small this place is. How very thin the atmosphere is. How fragile it is! The feeling of awe is etched deeply. It will only sharpen. It cannot dim in such a case."

Since the dawn of human history, the idea of space travel to escape the bounds of the Earth and to explore the worlds beyond our own, has captured the imagination of the human mind. For centuries it remained a fantasy and then became a subject of science fiction. Primitive humans saw around them the possibilities of flying above. They could see that the atmosphere can support objects-the wind can raise lighter objects with it above the ground. The more striking examples around them were the flying animals, the insects and the birds. The question that when birds can fly effortlessly then why man cannot, arose in the human mind again and again till humans succeeded in flying themselves. It took thousands of years to realize the dream of primitive humans to fly above. Early humans thought that perhaps humans could imitate birds with artificial wings. However, as we know it today, in reality this cannot happen. Under ordinary circumstances it is not feasible to keep a massive object suspended against the gravitational pull of the Earth through the support of a medium as rarefied as air. Humans dreamt not only flying themselves but they also imagined massive animals and even inanimate objects (like flying carpets) were capable of flying.

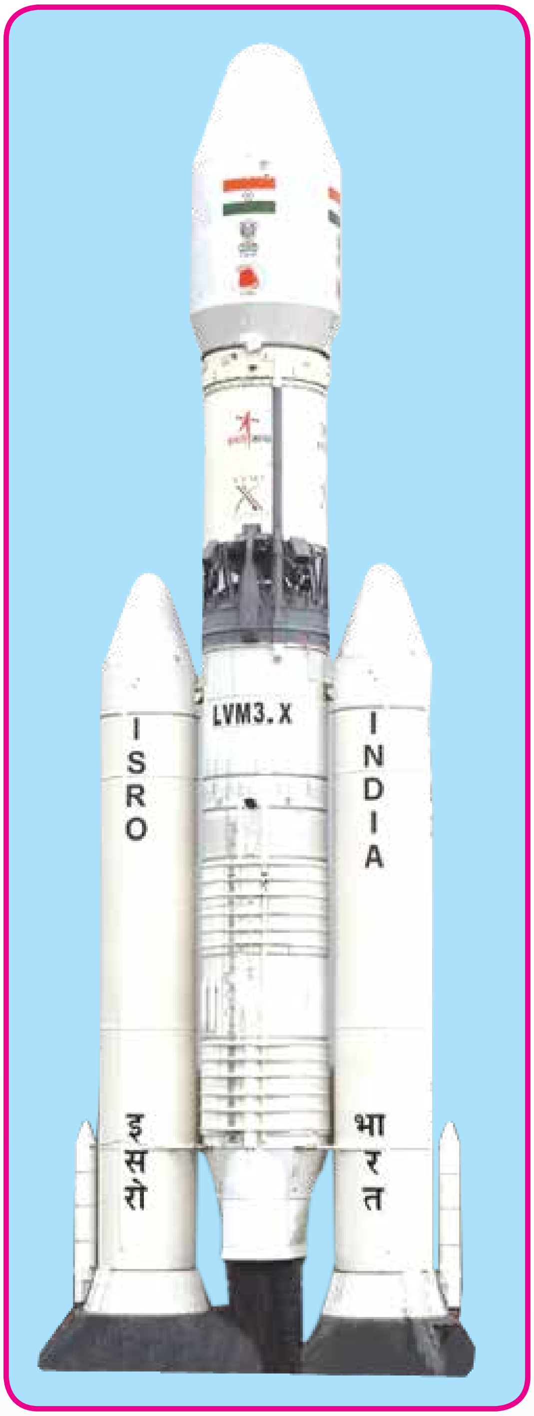
Humans started dreaming of trips to the Moon, the nearest celestial object to the Earth. By the beginning of the 20th century it dawned on the human minds that the idea of space travel might not be an altogether impossible proposition. Scientists, though a handful at the beginning, started thinking seriously about the practical problems in making space travel a reality. In the last 50 years, there has been a

tremendous, rather awe inspiring, progress in space travel technology and its innumerable applications. Today, spacecraft blast off regularly from the Earth, placing artificial satellites in orbit around the Earth and carrying space probes and astronauts into space.

The two inventions which made space flight a reality are: the rocket engine, the only engine that can work in the vacuum of space and the computer, which is needed to guide a spacecraft on its space mission. Most spacecraft are required to make only one flight into space. The rocket that launches a spacecraft consists of several parts called stages, each with its own rocket engine. Each stage breaks away as it uses up its fuel, eventually leaving only the spacecraft to fly in space. Those spacecraft that return to Earth use a small rocket engine to slow them down until they fall out of orbit and finally they land by parachute.

As early as the seventeenth century Isaac Newton thought about an artificial satellite as a thought experiment. The artificial satellite first found a place in fiction in The Brick Moon by Hale. Tsiolkovosky described an artificial satellite with scientific details in 1910 and then Oberth did it independently in 1923.

The target was to put a spacecraft in the Earth's orbit at a height where it can stay for an extended period of time as an artificial satellite of the Earth. Both the USA and the erstwhile Soviet Union began their satellite programmes. On October 4, 1957 the former USSR launched the first artificial satellite, Sputnik 1, in orbit. The first artificial satellite weighed 84 kilograms and it reached a maximum height of 940 kilometers. The Sputnik 1 burnt up in the atmosphere after 92 days. On November 3, 1957, Sputnik 2 was launched. It weighed 510 kilograms. Sputnik 2 carried a dog on its board. It was a much larger spacecraft. It weighed 5 to 10 kilograms. Thus it was demonstrated that living beings could be carried into space without any harm. It showed that a large mammal, as large as a dog, could survive the acceleration required in the launching process. However, there was no way to bring the dog back to the Earth. Sputnik 3 weighed 1330 kilograms. Sputnik Five weighed 46,000 kilograms. It carried two dogs and six mice. Unlike Sputnik 2, where the dog it carried was left in space, the dogs and mice carried by Sputnik 5 were retrieved. On April 12, 1961 Vostok 1 was launched. The Satellite, which weighed 47,000 kilograms, carried a human being into space. Yuri Alekseyevich Gagarin



(1934- 1968) became the first person to orbit the Earth. He orbited the Earth just once. Later, missions lasted for five days.

Manned space flights are fraught with a number of problems. Space flights pass through conditions unsuited for life. They are launched at very high speed not less than eight km per second. This is necessary to overcome Earth's gravitational pull. For astronauts to live and perform their tasks, artificial living conditions are created. The conditions are far from satisfactory if one compares them with the conditions on Earth. Unfamiliar changes pertaining to body weight are to be tackled. At the time of launching a spacecraft and during its return the body weight increases by 3 to 4 times. When the spacecraft is in orbit the body weight practically disappears a condition known as weightlessness or micro-gravity.

The space age began with the launching of the Soviet satellite Sputnik 1 on 4th October, 1957. The first manned flight, on Earth orbit, was made by the Soviet cosmonaut Yuri Gagarin on 12th April, 1961. Humans first flew round the Moon in December 1968, aboard the US Apollo 8 and first landed on the lunar surface in the lunar module of Apollo 11 in July 1969.

The space station Salyut-1 was launched by the former USSR in April, 1971. A space station is an artificial satellite designed to remain in Earth's orbit for years and to house astronauts for extended periods. Salyut-1 was the first space station in Earth orbit. The only crew to board Salyut-1 died when their ferry craft, Soyuz- 11, depressurized during re-entry. Salyut-7 was replaced by the Mir space station. The USA launched its first space station on 14th May, 1973. The space station, named Skylab, was 15 meters long and 6.6 meters wide. The Skylab, which was more or less cylindrical in space and it had a mass of 70 tonnes. It was divided into two rooms. Three crews, each of three astronauts, spent respectively 28 days, 59 days and 84 days aboard the

space station. The last mission was completed on 8th February, 1974. The Skylab, besides carrying out a number of scientific experiments, demonstrated the fact that humans could stay for extended periods in space under weightlessness or zero-gravity conditions, Incurring any major physical and mental problems. After the third mission the Skylab continued to orbit the Earth at an original height of 425 kilometers before plunging to Earth on its 34981st orbit on 11th July, 1979. When by the end of 1978 it became clear that the Skylab would plunge to Earth sometime in 1979 it created widespread fear that it might do damage. Fragments of artificial satellites fell on the Earth earlier also, but Skylab was the largest artificial satellite to hit the earth. But there was no stopping it. In fact scientists knew that Skylab could stay in orbit for about ten years. It had been planned to send a special spacecraft to push it to a higher region in space. However, this could not be done as the construction of such a spacecraft got delayed. Moreover, Skylab experienced greater than expected air resistance drag because of the high activity in the Sun and this hastened its descent to the Earth. Fortunately no damage was caused by the fall of Skylab. Most of the fragments fell into the Indian Ocean and some fragments on the deserts of western Australia.

Cosmonauts or astronauts spent longer periods in space in the Mir space station launched by the erstwhile USSR than in the US-launched space station. On two separate occasions, crew of three remained in space for six months in Mir space station. One cosmonaut stayed for one year in space. Both the US and the former USSR experiments demonstrated that humans could stay and work in space for longer periods without any physical or mental harm. So far, space exploration for extended periods what was needed was the improved version of spacecraft. This led to the development of space shuttles both by the USA and the then USSR. A Space Shuttle is a spacecraft, which can be reused. It can carry more crew and equipment. It can stay for a longer period in space.

Although manned exploration of space has at present gone no further than the Moon, unmanned planetary probes have been sent to other planets of the Solar system.

Yuri Alekseyevich Gagarin: The First Human in Space

On 12th April, 1961, Yuri Gagarin made history by being the first human in space to orbit the Earth. During the first manned space flight, the astronaut aboard was not given control of his flight. This was because the scientists did not know how a human would act in space. However, there was a key available in a sealed envelope for allowing the astronaut to take control of the spacecraft in case of an

emergency. Gagarin did not encounter any problem during the flight. He later said: "The spaceship put in orbit, and the carrier rocket separated, weightlessness set in, at first the sensation was to some extent unusual, but I soon adapted myself. I maintained continuous communication with earth on different channels by telephone and telegraph.

Gagarin could have done without any food onboard (as he was on a single-orbit trip), as he had to be in space for only one hour forty-eight minutes. However, food was kept as

scientists wanted to know if he could eat in the weightlessness of space. In fact, there was enough food and water to last for ten days. Gagarin tested food and water samples in space and he reported no side effects to the weightlessness.

Valentina Vladimirovna Tereshkova: The First Woman in Space

Tereshkova was the first woman to fly into space. Her flight lasted 48 orbits totalling 70 hours 50 minutes in space. She was the solo crew member in the three-day Vostok 6 flight which was launched from the Tyuratam Space Station in the then USSR on 16th June, 1963.

Rakesh Sharma: The First Indian Astronaut in space

Squadron Leader Rakesh Sharma, a 35-year old Indian air Force pilot became the 138th human in space, when he flew aboard the Russian rocket Soyuz T-11 on 2nd April, 1984. The manned space programme of the Indian Space Research Organisation was possible because of excellent relations between India and the former USSR. The three-member crew included Commander Y.V. Malyshev, Flight Engineer C.M. Strekalov of the then USSR and

Rakesh Sharma of India. The Soyuz T-11 docked and transferred the three-member Soviet-Indian international crew to the Salyut-7 Orbital Station. The crew spent seven days aboard the

Salyut space station and conducted scientific studies which included 43 experimental sessions. Sharma's work concerned mainly with the fields of bio-medicine and remote sensing. He also used Yoga techniques to combat the debilitating effects of weightlessness.

Kalpana Chawla: The First Indian Woman Astronaut in space

Kalpana Chawla was the first Indian woman astronaut to reach into outer space. She embarked on her first space mission aboard the space shuttle Columbia STS-87 mission on 19th November, 1997. The Columbia mission, STS-107 was her second Space Shuttle Mission.

In her lifetime, by her extraordinary feat she made India proud. To the Indian youth she became a striking symbol of success, courage and achievement. She has proved that one can make the impossible dreams, a possible dream even under adverse circumstances. She had shown that a woman cannot be stopped from achieving what she wants to achieve. Kalpana has raised the status of women in India to the stars.

Kalpana before the launch of her first space mission said: "I never thought while pursuing my studies or doing anything else about being a woman, or a person from a small city, or a different country. I pretty much had my dreams, like anybody else and I followed them. People around me fortunately always encouraged me and said, "If that's what you want to do carry on".

-Excerpts from the book

Reaching for the Stars: Kalpana Chawla and a brief history of Space journeyy by Subodh Mohanti

World-wide recognition of the role of Veterinarians

A hundred and fifty years ago, in 1863, Dr.J.Gamgee convened the first International Veterinary Congress. This initiative grew into the World Veterinary Association (WVA) today. The WVA unites and represents the global veterinary profession. It is the umbrella organisation for National Veterinary Associations and International associations of veterinarians working in different areas of veterinary medicine. The WVA continues the ambition of Dr Gamgee to bring veterinarians from all over the world together, to share their experiences, exchange ideas and to join forces for the promotion and development of veterinary medicine. The WVA defends the interest of the health and welfare of animals and people as well as the interest of its member organisations and their members.

World Veterinary Day

The World Veterinary Day is an annual global celebration that honours the invaluable contributions of veterinarians to society. Observed

on the last Saturday of April, this day aims to raise awareness about the crucial role veterinarians play in maintaining the health and welfare of animals and humans alike.

Theme for 2024

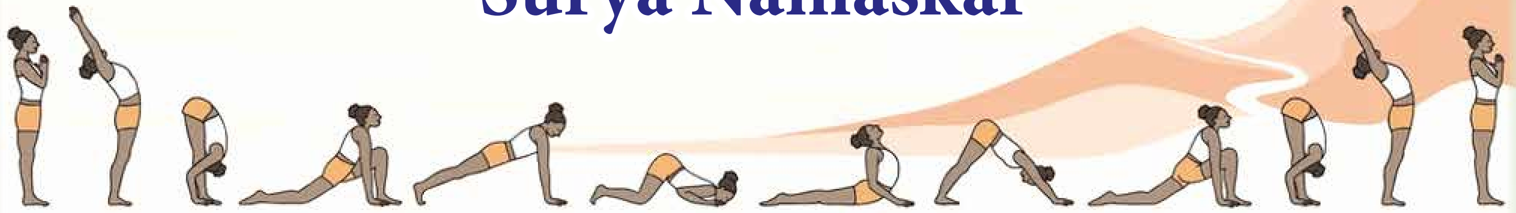
The 2024 World Veterinary Day is being held on 27th April 2024 and celebrates veterinarians competencies which must be regarded as an essential and integral part of health at large. The application of veterinary science contributes not only to animal health and well-being but also to the physical, mental and social well-being of humans.

This dimension of the veterinarians' work often remains invisible to society but protecting and improving the health of people and their communities is an essential part of the vet profession.

Celebrations in India

The Department of Animal Husbandry and Dairying in close collaboration with Veterinary Council of India organises events to celebrate World Veterinary Day-2024 to recognize and celebrate the important roles of Veterinarians in animal and human health and welfare, food security, food quality and safety, ecology, drugs and pharmaceuticals development, biomedical research, rural development. The role of Veterinarians as educators, trainers and policymakers as well as in economic development through livestock production and management and in wildlife conservation and the protection of the environment will also be underscored.

Incalculable benefits of 'Surya Namaskar'



A healthy and strong body is like an ornament. If you are healthy, you will be able to study properly, go on excursions or participate in competitions. Due to the gift of Yogasana given by ancient Sages, you can remain healthy and lead a long life. This article gives the importance and benefits of Surya Namaskar, mantras to be done during Surya Namaskar and Surya Namaskar steps with pictures.

Surya Namaskar should be done facing the early morning mild sunlight from the east.

There are different steps / positions that make a Surya Namaskar. Every step in Surya Namaskar is a different yoga position. During every step we have to do the breathing steps. To get the maximum benefit of Surya Namaskar hold yourself stable in every position for at least 10 to 15 seconds.

Position 1

Both feet touching each other, both hands joined at the centre of the chest as in prayer position back and neck straight and look straight.

Benefit : Helps maintain the balance of the body.

Position 2

Continuing from the first position take your hands straight up above your head and bend slightly backwards to stretch your back. Keep your hands in prayer position (without bending your elbows). Keep your neck between your arms and looking upwards bend slightly backwards from the waist.

Benefit : Strengthens chest muscles which in turn help in breathing.

Position 3

Continuing from 2nd position take your hands from above your head bending in the front and place your hands beside your feet on both sides. Keep your knees straight and try to touch the head to your knees.

Benefit : Makes the waist and spine flexible. It strengthens the muscles and is beneficial for the functioning of the liver.

Position 4

From the 3rd position start sitting down and take one leg backwards in full stretching position, your hands resting on the ground on either side of the front leg. The other leg should be bent at the knee. Put the chest weight on the front knee, your eyes should be looking slightly upwards.

Benefit : Strengthens the leg muscles and makes the spine and neck muscles flexible.

Position 5

Now slowly take the second leg back and beside the first. Keep the legs in line with the knees. The whole body weight should rest on the palms and toes. The foot, waist and head should be in a straight line. Look ahead towards the ground (This is also called Chaturang Dandasan because the body rests on the toes and palms)

Benefit: Strengthens the arms and maintains body posture

Position 6

Lower the chest towards the ground bending both arms at the elbows. The following eight organs should touch the ground. the forehead, chest, both palms, both knees and both toes.

Benefit : Makes the spine and waist flexible and strengthens the muscles.

Position 7

Now lift your body above the waist, bending it slightly backwards and looking backwards. Make sure your legs and thighs are touching the ground and your back is in a semi-circular position.

Benefit: Makes the spine and waist flexible and strengthens the muscles.

(Positions 5, 6 and 7 together, strengthen the arms and reduce the fat around the abdomen and waist.)

Position 8

Now lift your waist upwards and arms fully stretched with hands and legs resting on the ground, try to touch the chin to the chest.

Benefit : Beneficial for spine and waist muscles.

Position 9

Same as the 4th position with the opposite leg behind.

Position 10

Same as that in the 3rd and 2nd position.

“After that slowly come back to Position 1.

Benefits of Surya Namaskar

- It improves the blood circulation of all the important organs of the body.
- Improves the functioning of the heart and lungs.
- Strengthens the muscles of the arms and waist.

Makes the spine and waist more flexible.

- Helps in reducing the fat around the abdomen and thus reduces weight.
- Improves digestion.
- Improves concentration power.

The health benefits of Surya Namaskar have been discussed here.

Aids in weight loss

Fast paced Surya Namaskar is similar to physical aerobic exercises that help in weight loss. The yoga postures followed in Surya Namaskar have a great dynamic quotient that can aid in weight loss.

Improves cardiovascular health

Surya Namaskar helps improve blood circulation and strengthen the heart's function. It also enhances the resting cardiovascular parameters such as systolic blood pressure, diastolic blood pressure and pulse pressure. Enhances respiratory functions. Practicing Surya Namaskar can improve pulmonary function parameters such as forced vital capacity, forced expiratory volume (in the 1st second), and peak expiratory flow rate. Besides respiratory pressure parameters, maximum inspiratory pressure and maximum expiratory pressure (used to access respiratory muscle weakness) are enhanced with the daily practice of surya namaskar.

Stimulates hormones

Surya Namaskar activates and stimulates glands such as the adrenal and the pituitary glands, thereby maintaining optimum secretion of growth hormones and de-hydro-epiandro-sterone sulfate. Also, Surya Namaskar stimulates the thyroid glands and helps regulate menstrual cycles.

Aids digestion

The yoga postures of Surya Namaskar involve successive elongation and compression of the body including the digestive tract organs. Regular practice of Surya Namaskar helps stimulate the abdominal muscles and digestive fluids, thereby easing fecal excretion.

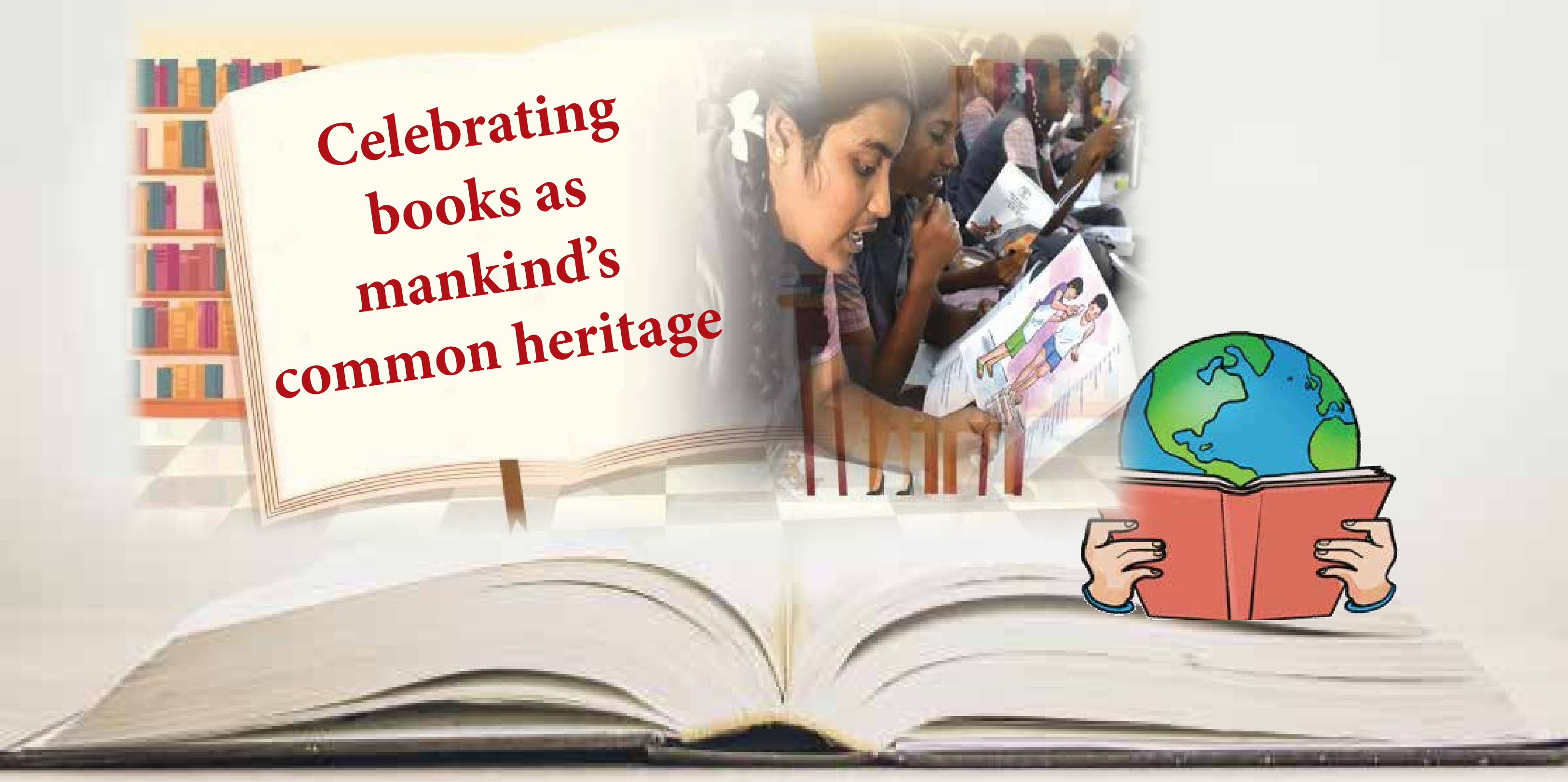
Relieves stress

Surya Namaskar helps regulate the interconnectedness of the mind, body, and breath by easing out the overstrained and stressed muscles. Therefore, regular practice helps relieve stress and boosts energy levels. However, if you begin to feel short-breathed or dizzy, then take a break. Pregnant women should not practice it. Women can continue it during their periods because it can helps in digestion and the inflow of energy and outflow of waste.

The benefits of Surya Namaskar are yet to be discovered fully, because till today the complete benefits of yoga are not known. It is effective in improving physical health, mental health and is effective in maintaining proper and healthy secretions of hormones from different endocrine and exocrine glands.

-Excerpts from 'World Journal of Pharmaceutical and Medical Research'

Celebrating books as mankind's common heritage

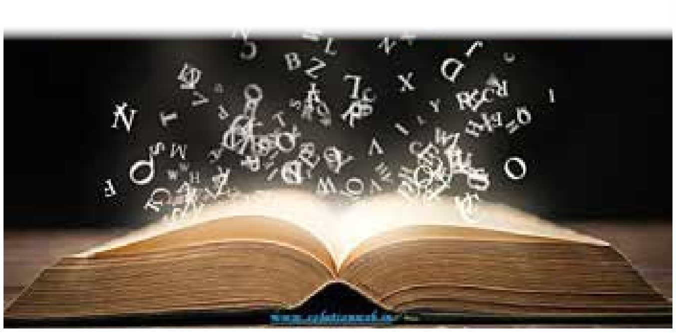


Have you ever lost yourself in a book only to find a piece of your soul? Imagine diving into pages transporting you to other worlds and meeting characters who feel like old friends. Each turn of the page brings a new adventure and lesson, shaping your view of the world around you.

World Book and Copyright Day, also known as World Book Day, is a special day dedicated to books, authors and intellectual property protection. It is celebrated every year on April 23 to highlight the importance of reading books. The day is also dedicated to paying respect to renowned authors.

The city of Strasbourg, with its rich history and cultural heritage, has been recognised as UNESCO's World Book Capital for 2024. The day is celebrated by UNESCO and other related organisations across the world to honour authors and books and to promote the art of reading.

UNESCO has selected 23rd April as World Book Day to pay tribute to great literary figures including William Shakespeare, Miguel Cervantes, and Inca Garcilaso de la Vega who died on this day. In 1995, this date was finalised by the UNESCO General Conference held in Paris, to pay tribute and honour authors and books worldwide.

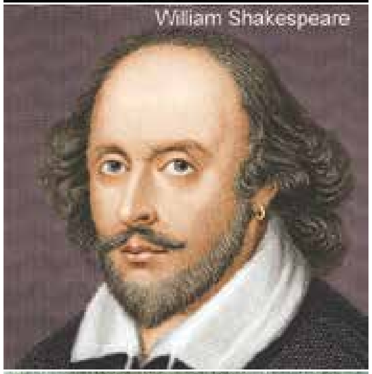


Theme of World Book Day 2024

The theme for World Book Day 2024 is 'Read Your Way'. This theme emphasises the importance of cultivating a passion for reading.

Purpose of World Book and Copyright Day

On this occasion, worldwide tribute is given to books and authors, so as to encourage people to discover the pleasure of reading. This will generate respect for those who have made irreplaceable contributions to social and cultural progress. The UNESCO Prize for Children's and Young People's Literature in the Service of Tolerance is awarded. Also, this day will increase understanding among people regarding copyright laws and other measures to protect intellectual copyright.



No doubt this day will become a platform for people across the world, especially the stakeholders of the book industry, including authors, publishers, teachers, librarians, public and private institutions, humanitarian NGOs, and the mass media, to come together to promote literacy and help everyone have access to educational resources.

World Book and Copyright Day Celebrations

This day's celebrations focus on literature and reading particularly emphasising the importance of enhancing and protecting Indigenous languages. UNESCO also supports local communities to promote and preserve their knowledge and language. Knowledge is never wasted, and it is said that a book brings people together around a story and a common heritage while revealing their specificities through different cultures, identities and languages.

To maintain the celebration of books and reading, the World Book Capital is selected by UNESCO and other organisations representing publishers, booksellers and libraries. Tbilisi, Georgia, was UNESCO's World Book Capital 2021.

Generally, we won't get time to read on our own or with children. Through reading and the celebration of World Book and Copyright Day, we can open ourselves to others despite the distance and we can travel through our imagination.

Source: Unesco.org

The manifold health benefits of Yoga

Yoga is an ancient practice that incorporates gentle exercise, breath control and meditation.

The health benefits of regular yoga practice may include lowering high blood pressure, improved posture and circulation, and a sense of wellbeing. The practice of yogasanas develops strength and flexibility, while soothing your nerves and calming your mind. The asanas have an effect on the muscles, joints and skin, and the whole body including the glands, nerves, internal organs, bones, respiration and the brain. The physical building blocks of yoga are the postures and the breath.

Health benefits of yoga include:

- ❖ Improves flexibility
- ❖ Helps with stress relief
- ❖ Improves mental health
- ❖ Yoga may reduce inflammation
- ❖ Yoga will likely increase your strength
- ❖ Yoga may reduce anxiety
- ❖ May Improve quality of life
- ❖ Yoga may boost immunity
- ❖ Improve balance
- ❖ Yoga may improve cardiovascular functioning
- ❖ Yoga may help improve sleep
- ❖ Yoga may improve self-esteem
- ❖ Yoga may improve bone health
- ❖ Yoga can improve brain functioning
- ❖ Yoga can promote better posture and body awareness

Although exercise and yoga involve bodily movements there are important distinctions between them

- ❖ Yoga practices reduced muscle tension, progressive movements / Exercise involves increased muscle tension.
- ❖ Yoga strengthens the mind/ Exercise strengthens the body.
- ❖ Yoga cultivates awareness, relaxation, concentration and meditation/ exercise builds physical strength and endurance.

❖ People of all ages can practice yoga/ Exercise should be done according to age.

❖ You can live young through yoga/ Exercise can keep you young.

❖ Yoga practices slow dynamic movements / Exercise involves rapid forceful movements.

❖ There will be regular breathing / The level of breathing varies.

Yoga encourages mental and physical relaxation, which helps reduce stress and anxiety. The physical postures promote flexibility, relieve tension and alleviate pain.

Yoga poses may help you release physical blockages like muscle knots, helping release emotions and tension. They also promote the release of mood-boosting endorphins which are the feel-good hormones that can positively affect how you handle stress.

Focusing on the present moment during your yoga practice enhances your awareness, boosts your concentration, and gives focus to your mind.

As you become aware of the transitory nature of your bodily sensations, thoughts and feelings, you may find it easier to let go of attachments to positive, negative and neutral experiences. You may also learn to cultivate feelings such as love, joy and serenity.

Pranayama is the practice of breath regulation. It's a main component of yoga, an exercise for physical and mental wellness. In Sanskrit, "prana" means life energy and "yama" means control. The practice of pranayama involves breathing exercises and patterns. You purposely inhale, exhale and hold your breath in a specific sequence. The goal of pranayama is to connect your body and mind. It also supplies your body with oxygen while removing toxins. This is meant to provide healing physiological benefits.

Pranayama, or breath control, is a main component of yoga. It's frequently practiced with yoga postures and meditation. The goal of pranayama is to strengthen the connection between your body and mind. According to research, pranayama can promote relaxation and mindfulness. It's also proven to support multiple aspects of physical health, including lung function, blood pressure, and brain function.

Pranayama may benefit your health in a variety of different ways. Pranayama reduces perceived stress levels in healthy young adults. Pranayama calms the nervous system. pranayama also improves sleep quality, a study found that practicing pranayama decreased snoring and daytime sleepiness, suggesting benefits for better quality rest. Pranayama helps remove carbon dioxide and raises oxygen concentration, which fuels brain cells. This may contribute to mindfulness by improving focus and concentration. Pranayama reduces high blood pressure. As a type of breathing exercise, the slow, forceful breathing of pranayama may strengthen your lungs and Improve lung function. Pranayama enhances cognitive performance, which includes your working memory, cognitive flexibility and reasoning skills.

-From 'Healthline Media'

Many wonders of the world

The Great Pyramid of Giza

Ancient wonders of the world

The list of the Seven Wonders of the World was first made by the ancient Greek historian, Herodotus in the 5th century BC. Many other similar lists followed and their contents varied. The list that is most commonly referred to today was made by Antipater of Sidon in the 2nd century BC. He listed the most impressive structures of his time in a poem about the temple of Artemis.

The Great Pyramid of Giza

Of all the wonders of the ancient world, the Great Pyramid of Giza in Egypt is by far the most well known. It is one of the oldest wonders and the only one to have survived the ravages of time. The Great Pyramid was built by the fourth dynasty Egyptian pharaoh, Khufu between 2650 BC and 2500 BC. The pyramid is made of 2.3 million blocks of stone, each weighing

about 2.5 tonnes. According to Herodotus, it took 1,00,000 men about 20 years to build the massive structure. Until the 19th century, it was the tallest structure in the world.

It is believed the pyramid was built as a tomb for Khufu. He was buried with a fabulous treasure in a secret chamber inside the pyramid. Around 820 AD, Caliph Abdullah al Mamoun of Baghdad came to Giza in search of this treasure. He hired a large number of workers who dug through the pyramid for weeks. However, when they finally reached the secret chamber, they found nothing but an empty sarcophagus.

Hanging Gardens of Babylon

There are two accounts for the creation of the Hanging Gardens of Babylon near present-day Al Hillah in Iraq. The more popular belief is that King Nebuchadnezzar II built the gardens to comfort his wife, Amytis. She used to miss the mountain greenery of her homeland very much. Nebuchadnezzar created the fantastic gardens around 600 BC in the middle of the desert. The other possible creator is Queen Shammurmat who lived two centuries before Nebuchadnezzar.

Whoever created the gardens, there are almost no known remains of the Hanging Gardens. In fact, Babylonian writings make no mention of the gardens. They are only mentioned by ancient Greek historians and poets. The famed gardens were most probably destroyed by an earthquake in the 1st century AD.

a period of eight years and was completed in 430 BC. It was made of ivory and gold and moulded over a wooden framework. It showed Zeus sitting on a throne with a symbol of Nike (victory) in his right hand and a sceptre crowned by a massive eagle in the left hand.

The temple flourished until the 4th century AD. Fires, floods and earthquakes eventually destroyed the temple around 426 AD.

Temple of Artemis

The temple of Artemis was built in Ephesus (modern day Selcuk, Turkey) in the year 550 BC. It was dedicated to Artemis, the Greek goddess. Croesus, the King of ancient

Statue of Zeus

"If Zeus moved to stand up, he would unroof the temple."

So said the Greek historian Strabo. He was talking about the 40-foot tall statue of Zeus that had been installed in the temple at Olympia. The temple, dedicated to Zeus, had been designed in 450 BC by the Greek architect Libon. Although the temple was a wonder in itself, the Greeks felt it needed more.

The Greek sculptor, Phidias, perhaps the finest sculptor in the ancient world, was asked to make the statue. The statue was created over

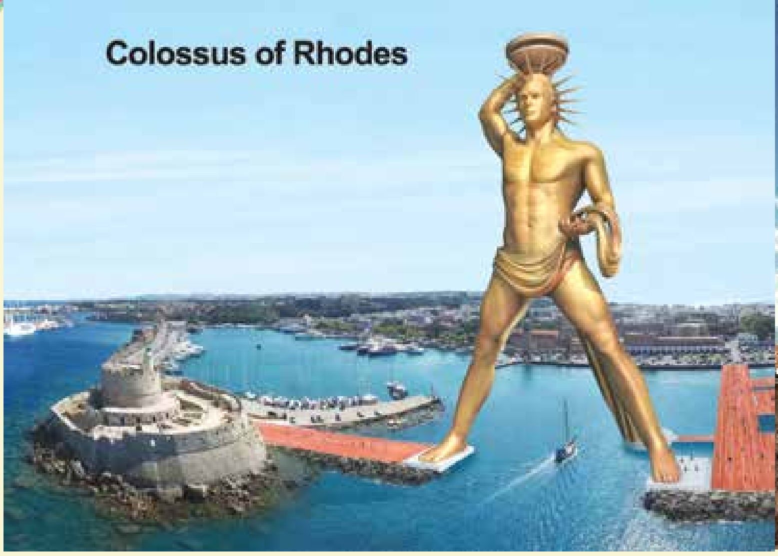
Lydia, sponsored this temple. The temple was made entirely of marble. It contained a statue of Artemis, shown standing with her arms outstretched. The statue was made with such precious materials as gold, silver and ebony.

The original temple was burned down in 356 BC by a madman named Herostratus. It was rebuilt by Alexander the Great but destroyed by the Goths in 262 AD. The temple was rebuilt but destroyed again by the Christians, never to be restored again.

Mausoleum of Halicarnassus

The Mausoleum of Halicarnassus was the tomb of Mausolus, King of Caria, a kingdom in the Persian Empire. Mausolus was married to his sister, Artemisia, something that was very common for royalty in that era. In 353 BC, when Mausolus died, Artemisia decided to build him the most magnificent tomb. She sent word to Greece that she would pay any price to have the best architects work on the tomb. Eventually, four of the best architects of the time, Scopas, Bryaxis, Leochartes and Timotheus worked on this structure.

The tomb was built on a 60-feet high stepped podium. The roof was held up by 36 marbled columns. The roof itself was a 24step pyramid. On top of the pyramid was a four-horse marble chariot that had statues of Mausolus and Artemisia standing side by side on it. The whole structure stood over 140 feet tall with the chariot alone standing 20 feet high. The building and the stairway at the entrance were guarded by massive stone lions.



The mausoleum was partially destroyed by an earthquake in the 13th century and by 1522, the crusaders had completely taken apart of whatever remained.

Colossus of Rhodes

Historians think that it took about 12 years to build the Colossus, a 110 feet high statue of the Sun God Helios.

When Alexander the Great died in 323 BC, fighting broke out between his generals. During the fighting, the island of Rhodes sided with Ptolemy of Egypt. This angered Antigonus, one of Alexander's generals. In 305 BC he had his son Demetrius Poliorcetes, invade Rhodes with an army of 40,000; however, the city was well defended. In 304 BC a relief force of ships sent by Ptolemy arrived, and Demetrius's army abandoned the siege, leaving most of their siege equipment. To celebrate their victory, the Rhodians sold the equipment left behind and decided to use the money to build a colossal statue of their patron god, Helios.

Construction was left to the direction of Chares, a native of Lindos in Rhodes. Chares started out and the result was a giant iron and bronze statue that stood on a 50-feet high pedestal. Inside were stone columns that held the statue upright.

The statue stood proudly at the entrance to Rhodes harbour for 56 years till an earthquake shattered it to pieces.

The Pharos of Alexandria

The Lighthouse of Alexandria (or The Pharos of Alexandria) was a tower built in the 3rd century BC (between 285 and 247 BC) on the island of Pharos in Alexandria, Egypt to serve as the port's lighthouse.

The lighthouse was the idea of Ptolemy Soter who took over command of Egypt after the death of Alexander the Great. He realised

that sailing conditions in the region were dangerous. Hence he ordered the construction of the lighthouse in 290 BC. The project was so daunting that it was only completed after his death by his son Ptolemy Philadelphus. The main architect of the tower was a man named Sostratus.

The lighthouse was a huge building that had three parts, each built right on top of the other. The lowest part was square and stood 183.4 feet high. The middle part was octagonal in shape and measured 90 feet in height. The highest part was a 24-feet high cylindrical tower. Inside the tower was a cylinder that carried fuel to light the fire at the top at night. In the daytime, a mirror reflected sunlight and served as the beacon.

Earthquakes eventually destroyed the structure. What was not destroyed by the earthquakes was used by Sultan Qaitbay in 1480 to build a fort on the same spot.

MEDIEVAL WONDERS

Many lists of the wonders of the world are said to have existed during the Middle Ages, although it is unlikely that these lists originated at that time because the concept of a Middle Age did not become popular until the 16th century. Spread over three continents, the feats of engineering and architecture now referred to as the Seven Medieval Wonders represent an impressive range of human artistry.

Stonehenge

Stonehenge, in Wiltshire, England is probably the oldest and most mysterious of the medieval seven wonders. No one knows exactly why this circle of massive stones was

erected. The huge structure is believed to have been developed in three phases, starting 3100 BC. Huge stones weighing tonnes were brought to the place and arranged in circles.

Historians say that the stones were probably brought from faraway places. Yet, how such massive stones could have been transported over any distance remains a mystery.

Many legends have been associated with this mysterious circle of stones. One of them is associated with Merlin, the wizard from King Arthur's stories. In the 5th century BC, hundreds of British noblemen were killed by Hengest, a cruel Saxon leader. King Aurelianus Ambrosius wanted to build a memorial for the dead men. Merlin magically transported the stones from Ireland to Britain, where they rest around the martyrs' graves.

Colosseum

Gladiatorial games were one of the most popular pastimes in ancient Rome. The popularity of the games inspired Roman Emperor Vespasian to build a grand amphitheatre, known as the Colosseum. Construction started sometime between 70 and 72 AD and was completed sometime in 80 AD. The open air theatre could seat 50,000 people and was known officially as the Flavian Amphitheatre. The oval shaped theatre had four floors. The arena was made of wood and covered with sand. There were changing rooms and animal pens below the floor.

The colosseum remained in use for nearly 500 years. The last recorded games were held as late as the 6th century, well after the demise

of the Roman empire. Over the centuries the Colosseum was damaged by earthquakes and stripped for building materials.

Great Wall of China

The Great Wall of China is a series of walls, signal towers and passes in Northern China. It was built, rebuilt and expanded by different Chinese dynasties, including the Qin, Han and Ming. Known as the world's largest man-made structure, the Great Wall of China spans mountains and deserts. It took over 2,000 years to construct the wall.

The Wall was originally constructed in the 5th century to protect the Chinese Empire's northern border from nomadic tribes and other invaders. At that time, the wall was constructed with rammed earth and wood. In some places, the wall was constructed with bricks. Elsewhere, quarried granite or even marble blocks were used. The wall was continuously brought up to date as building techniques advanced.

Hagia Sophia

The Hagia Sophia in Istanbul, Turkey is considered one of the world's most beautiful buildings and the finest example of Byzantine

architecture. The original cathedral was built by the Roman emperor Constantius, son of Constantine I who founded the city of Istanbul, then called Constantinople. This first church was destroyed by a rioting mob in 404 AD. Emperor Theodosius II then rebuilt the cathedral, but it was burned down during the Nika revolt of 532 AD. The present building was built between 532-537 AD by the emperor Justinian.

The cathedral's most outstanding feature is its dome. Forty windows formed the base of the dome giving the impression that it floats in air. It was the largest cathedral in the world for nearly a thousand years. In 1204, the Hagia Sophia was plundered by the Crusaders; however, it continued to serve as a church until 1453, when Constantinople fell to the Ottoman Turks.

Sultan Mehmet then converted Hagia Sofia into a mosque. The building served as a mosque until 1935. Later, the first Turkish President transformed the building into a museum.

Leaning Tower of Pisa, Italy

The biggest truth about the Leaning Tower of Pisa is that it was not meant to lean. It was designed by the architect as a freestanding bell tower that would stand vertical. The tower however, began leaning to the southeast soon after the construction began in 1173. This was because of a poorly laid foundation and loose soil that allowed the foundation to shift direction. However, it is this trademark tilt that has earned the tower a place among the seven wonders of the world.

The free-standing bell tower is eight storeys tall. It's believed the tower was developed in three phases spanning almost 200 years. This was a result of the structure's foundation settling unevenly in the soft ground, as well as political issues and financial problems. Over the centuries, the tower has required continuous maintenance to counter the effects of aging, weather and shifting soil. The Italian Government closed the tower to the public in 1990 and launched an 11-years, multi-million-dollar restoration campaign. The challenge was to make the tower structurally sound while preserving its famous appearance. The campaign was deemed a success and the Leaning Tower reopened to the public in 2001.

Porcelain Tower of Nanjing, China

The Porcelain Tower of Nanjing was also known as the Porcelain Pagoda of the Grand Bao'en Temple. It was designed by the Chinese Emperor Yongle and construction started in the 15th century. From an octagonal base about 97 feet in diameter, the tower's nine storeys rose like a pyramid to a height of about 260 feet.

The brilliant white porcelain bricks that faced the tower were one of the striking features of this structure . When the sunlight hit the bricks in the daytime it made the tower glitter. By night the tower glowed in the reflected light of over 140 lamps hanging around the exterior of the tower. The porcelain tiles had images of dragons, animals, landscapes, flowers, and bamboo.

Tragedy, however, struck the pagoda twice. In 1801 a bolt of lightning struck and knocked of the top three storeys of the tower. Then the Taiping Rebellion reached the city of Nanjing and in the resulting warfare, the pagoda was virtually destroyed.

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